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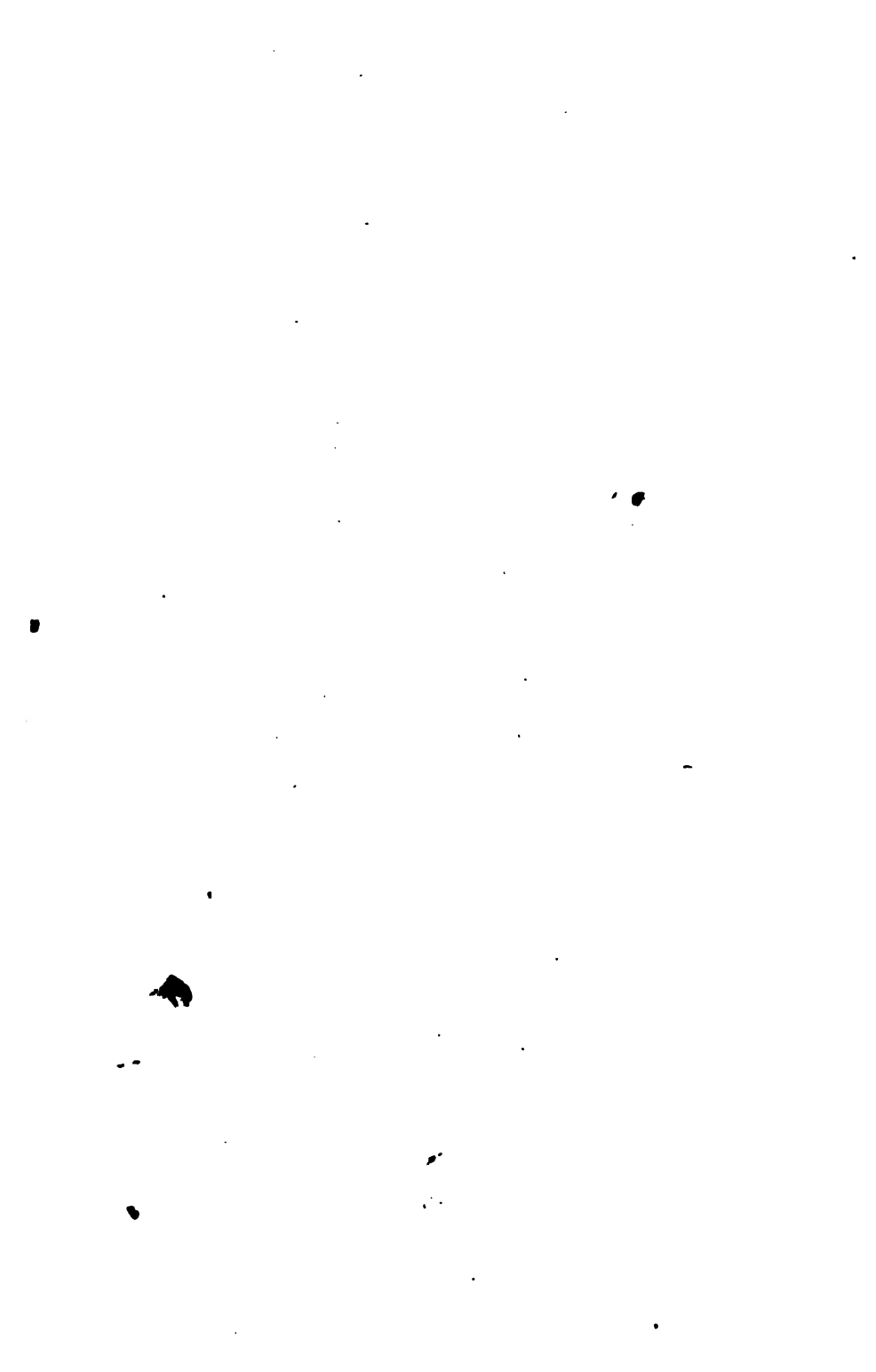
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MR. STOKES ON EXCISION OF A PACHYDERMATOCOELE OF THE SCALP.

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PART I.

ORIGINAL COMMUNICATIONS.

ART. I.—*On Excision of a Pachydermatocele of the Scalp.* By
WILLIAM STOKES, Professor of Surgery, Royal College of
Surgeons, Ireland; Surgeon to Richmond Surgical Hospital;
Fellow of the Royal Medico-Chirurgical Society of London.

THE disease to which the name "Pachydermatocele" has been given by the late Professor Valentine Mott, and that of "Fibroma molluscum" by Virchow, is of such comparatively rare occurrence that I feel confident the leading particulars of a case of that disease which was in my wards in the Richmond Hospital in November, 1874, will be considered worthy of record.

J. M., aged thirty-three, a tall, well-nourished, dark-complexioned, muscular man, was admitted into the Richmond Hospital, under my care, on November 18th, 1874. He is a native of Ireland, but has spent the greater part of his life in the United States of America. He stated that at the early age of six years the tumour first appeared, and during twenty-seven years it increased gradually and slowly, until it assumed the enormous dimensions it had on his admission into the Richmond Hospital—a good idea of which may be had by reference to the lithograph by Mr. Forster, taken from a photograph of the patient before any operative interference.

While in America he consulted several eminent surgeons, and some of them recommended operative interference, while others

were of opinion that nothing should be done. He then determined to return to his native land, which he did, and placed himself under my care in the Richmond Hospital.

The tumour, he stated, never interfered in the slightest degree with his general health. He did not suffer any pain from it, and only suffered from a twofold annoyance—one, the knowledge that he was the possessor of such a hideous deformity, and the other, the great weight of the tumour. It was manifestly a benign one, and it was quite clear, from the general history of the case, and from the external characters of the growth, that it was an example of the disease termed "*Fibroma molluscum*" by Virchow, and "*Pachydermatocele*" by Professor Valentine Mott. The base of the tumour was very wide; it extended from above and in front of the right ear to the left of the occipital protuberance, and extended upwards to the vertex of the head, and from that the tumour hung down, as may be seen by the lithograph, as low as the shoulder. It was quite movable, free from morbid sensibility at any part, and the external surface of it was irregular, being covered with nodular masses, varying in size from a small bean to a walnut. There was no discoloration of the tumour, and it was thickly covered with dark hair, which was removed previous to operation. Before determining to perform any operation there were two circumstances which caused me to hesitate—one was the fear that this large mass was overlying bones more or less eroded; the other, that probably several vessels of large calibre would have to be divided, the hæmorrhage from which would be so great as to endanger the patient's life.

However, on making a careful examination of the tumour, at which not only my colleagues, but also my friend, Mr. Porter, assisted, I came to the conclusion that erosion of the bones had not taken place, nor could the existence of any specially large vessels going to feed this enormous mass be determined. Under these circumstances, after long and anxious consideration, I resolved to excise the entire morbid growth, not only in consequence of the absence of the two features just alluded to, which would probably have determined me against any operative interference, but also from the knowledge of the fact that in many of these cases, especially in those recorded by the late Professor Valentine Mott, the operation was attended with good results. In three of his five cases the operation terminated successfully, in the fourth the patient died soon after the operation, and in the fifth there was a

rapid return of the tumour. In the remarkable case which Virchow looked on as of so much importance that he has selected a drawing of it as the frontispiece of his classical work on tumours, the operation was brought to a successful issue, seven years having elapsed without any return of the disease. Encouraged by the results obtained in the remarkable cases just alluded to, I proceeded to the operation, and on the 20th of November the patient came into the operating theatre, and was brought under the influence of chloroform.

I then proceeded to remove the tumour but before this was accomplished an untoward and alarming contingency arose, which caused me the most grave anxiety at the time. It was not that I found any erosion of the bones, such as I at first feared might be present, but on account of the fierce and uncontrollable hæmorrhage which took place during the operation, not from the division of any specially large arteries, but from the vast number of small vessels which went to nourish the enormous mass. The hæmorrhage may, in truth, be described as having been terrific. Whether it was from this cause, or the action of chloroform, or both, the patient, before the operation was completed, got into a condition which caused me and my colleagues the greatest alarm. He was, in truth, to all appearance, dead. The respiration ceased, the pulse ceased, the face assumed a cadaveric hue, the eyes became glazed, and he was, to all intents and purposes, dead. Under these circumstances we had recourse to the plan for resuscitating persons suffering from syncope produced by chloroform, which was first suggested and practised by the late Professor Nélaton, of Paris—a practice based on the theory (one probably correct) that death in such cases is due to anæmia of the brain, and to which method the attention of the surgical profession in these countries was, I believe, first drawn by my distinguished friend, Dr. Marion Sims, in an interesting paper, read before the surgical section at the annual meeting of the British Medical Association, at Norwich, August, 1874. The patient was, on the symptoms of syncope supervening, immediately inverted, the head hanging down, and the heels elevated by Dr. Thomson and Professor Bennett; Dr. Theodore Stack, our late able resident surgeon at the Richmond Hospital, fixed and supported the shoulders, while efforts at artificial respiration were effectively made by Dr. Thornley Stoker. I forcibly opened the mouth, seized and held forward the tongue with a forceps. For a time our efforts at restoring animation

appeared futile, and the death of the patient appeared imminent, if not already an accomplished fact.

It would, in truth, be hard for me to give in words any adequate idea of the mental anxiety and keen distress I experienced at this moment at the prospect, and apparent likelihood, of the patient—a fine, healthy, robust, powerfully-built young man—perishing on the table during the operation I had recommended him to submit to. Those only who have been in similar circumstances can understand the operator's feelings during such a terrible crisis. However, to the great joy of all engaged at the operation, in five or six minutes there were evident signs of returning animation, and when this was fully established I was enabled to complete the excision of the enormous tumour. The hæmorrhage, unfortunately, again came on, and could only be checked by the free application of the actual cautery. At one time three cautery irons had simultaneously to be applied. In my entire surgical experience I have never seen in any case such copious and uncontrollable *weeping* hæmorrhage; it came from every portion of the cut surface, but by the actual cautery I succeeded eventually in completely checking it. Before this was accomplished, however, the patient got a second syncopal attack. This was also treated by Nélaton's method, and with a result as satisfactory as on the first occasion. For upwards of two hours the patient was kept perfectly quiet on the table of the operating theatre, as we observed that whenever the patient was moved the bleeding returned. At the end of the time just specified we at last felt justified in carrying the patient back to his ward. There was, fortunately, no appearance of any further hæmorrhage. I must here acknowledge, with thanks, the able assistance that was rendered by my colleagues, Drs. Thomson and Stoker, and also by Professor Bennett, during this truly perilous operation.

The advantages of Nélaton's method of resuscitation were so apparent in the foregoing case that I cannot resist quoting a passage from Dr. Marion Sims' deeply interesting paper, alluded to already, on the procedure, which all engaged either in surgical or obstetric practice should be familiar with. He observes:—"I believe that obstetricians may take a lesson from Nélaton's method of resuscitation by adopting it in cases of threatened death from *post partum* hæmorrhage. Let us not be satisfied by placing the head low; but let us, in addition to the means usually adopted, invert the body, and throw what little blood there is left in it wholly to the brain. I have never seen a death from uterine





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hæmorrhage; but from recollections of the few alarming cases I have witnessed, I now feel sure that recovery might have been hastened if I had known and adopted Nélaton's method of inversion. Whether death from chloroform is due to cerebral anæmia or not, it is at least safe to adopt Nélaton's method *in all cases* of supposed or threatened danger."

As regards the pathology of this tumour there is little to say. It is not a new growth, but an excessive hypertrophy of the skin and cellular tissue attaining enormous dimensions. This was the result of the various microscopic examinations made for Professor Valentine Mott of the tumours of this kind that were operated on by him, and of the examinations of the tissue of the tumour operated on by me, which I had made for me by some friends who are skilled histologists.

It is unnecessary to give an account of the daily progress of the case after the operation. Nothing untoward occurred; and on the seventh day after the removal of the tumour the patient was enabled to leave his bed and walk about the ward.

Four months after the date of the operation above described, I had to perform a second operation on the patient, and excised some small portions of the tumour that I was unable to remove at the first procedure in consequence of the extreme exhaustion following the hæmorrhage. The second operation was not attended with any untoward circumstance, and the convalescence of the patient proceeded rapidly. The accompanying lithographs by Mr. Forster depict faithfully the appearance of the patient before and after the operations to which I have above briefly drawn attention.

It is remarkable how few cases of this kind have been recorded. Mr. John Bell was, as well as I can determine, the first to give any full description of a case of this kind. He does not give any special name to the tumour, but in his work on Surgery gives a description of it in a chapter on "The Unlimited Growth of Tumours." The book contains a drawing of a case which occurred in his practice in the year 1815. The patient was a native of Ireland, but it differed from my case, and others I have learned of, in having, as was alleged, a traumatic origin. The woman who was the subject of the enormous growth described by Mr. J. Bell stated that when she was on her way home from America the ship was struck by lightning, and in the confusion which ensued she received a blow, fell upon her head, and was insensible for some time. Shortly afterwards a tumour appeared on her head, and

grew to an enormous size within twelve months. The patient consulted the surgeons of Guy's Hospital, who declined to interfere, and then she placed herself under the care of the illustrious surgeon, M. Desault, at the Hôtel Dieu in Paris. He, it was said, removed the tumour, but it grew again, and no surgeon afterwards interfered with it; and the drawing in Bell's book represents its condition some years after Desault's operation, the cicatrices of which are distinctly visible in the drawing in Bell's book. The two drawings in Professor Valentine Mott's paper on this disease present similar appearances to those in the case of John Bell. A remarkable case of this affection occurred in the practice of Mr. Pollock, of St. George's Hospital, London. In this case the tumours were not removed by the knife, but by the ligature. In my case I should have preferred the ligature, were it possible of application; but the idea of using it when the base of the tumour was so very wide, was altogether out of the question, and the only possible plan of operation was its removal by the knife. The result of the operation has been, I am happy to say, in every respect most satisfactory.

ART. II.—*Typhoid Fever in the Garrison of Dublin.** By ALBERT A. GORE, M.D., Surgeon-Major, Military Prison Staff and Departments.

IN former days the Irish command was unpleasantly notorious for the production of all forms of febrile disease. The military records of the 17th and 18th centuries show that continued fevers, called by Boate the "Irish ague," were very prevalent, but the history of the disease is so mixed up with that of epidemic dysentery—an acute specific disease, thought by Dr. Murchison, in our own time, to be very closely allied to typhoid, which stood next in order of frequency of occurrence—that to differentiate between the two is not always easy. The following example will, I think, serve to illustrate this fact:—

In Cork, in 1817, what was stated to be dysentery was very prevalent, and was accompanied by "a fever peculiar to itself." According to the local physicians of the day, it differed in many respects from the dysentery of authors; was contagious and said to depend upon local circumstances, cases being most frequently observed in the low parts of the town, and where deposits of filth with

* Read before the Medical Society of the College of Physicians, December 8, 1875.

- For the Discussion on this paper, see p. 61.]

a want of due ventilation had been present. It raged with especial virulence amongst the troops quartered in the old barracks, which was supplied with water from the River Lee, and which in passing through the city had been rendered impure for drinking purposes by the *influx of the contents of the sewers from the houses*, and the reflux of the tide. Upon the surgeon of the corps which occupied these barracks recommending the disuse of this contaminated water, and engaging a number of water-carts to draw a purer fluid for the use of the men from a spring called the Lady's Well, the disease very shortly disappeared. A peculiar continued fever accompanied by bowel complaint, producing a mortality of 1 in 3, and due to water contaminated by sewage matter, looked very like typhoid, although called dysentery.

Sydenham classed fever as the first in rank of the *leaguer* sicknesses which prevailed in what he called "that unhappy country Ireland," in the 17th century. Since then the disease, in various forms, has been frequently epidemic. It is becoming year by year less so, probably owing to the very great improvement which has taken place in the general condition of the inhabitants during the last twenty or thirty years. At the same time it appears to me that the febrile poison follows, in the United Kingdom, very much the same course that it does at certain stations abroad, where, during certain years, it is, comparatively speaking, inert, while in others it is very fatal and prevalent as judged by its effects.

Between the years 1837-46, continued fevers of all kinds, including typhoid, accounted for an annual ratio per 1,000 per annum among the troops in the United Kingdom as below:—

	Admitted	Died
Dragoon guards and Dragoons,	51·9	1·36
Royal artillery, . . .	51·0	·65
Foot guards, . . .	77·7	2·44
Infantry regiments, . .	69·9	2·45

Since that period the Foot Guards have always shown the highest ratio of admissions. In 1859 the annual ratios had fallen with improved sanitation—

	Admitted	Died
In Dragoon guards and Dragoons to	27·8	·37
Royal artillery, . . .	26·0	·35
Foot guards, . . .	32·2	·84
Infantry regiments, . .	24·0	·66

The minimum was reached in 1867, when there were among—

	Admitted	Died
Dragoon guards and Dragoons, . . .	9·0	·52
Royal artillery,	14·2	·00
Foot guards,	16·6	·72
Infantry regiments,	15·5	·96

From that year until the present, there has been on the whole a gradual rise or increase in the admissions from these various forms of fever, the ratios being in 1872 among—

	Admitted	Died
Dragoon guards and Dragoons, . . .	17·0	·19
Royal artillery,	22·5	·38
Foot guards,	25·5	·49
Infantry regiments,	18·0	·38

In the Dublin garrison alone, the ratio per 1,000 per annum of admissions and deaths from continued fevers from among all arms was as below:—

Year	Admitted	Died
1860	27·47	·37
1861	30·80	·41
1862	29·10	·00
1863	13·10	·65
1864	14·70	·85
1865	15·00	·68
1866	13·60	·60
1867	21·40	2·97
1868	20·60	2·24
1869	24·60	·70
1870	19·40	·22
1871	19·00	·87
1872	29·90	·40

According to Dr. Grimshaw, fever amongst the civil population of Dublin steadily decreased from 1866 to 1869, since which last year it has been rising again. If the army medical returns are referred to, it will be seen that the admissions from typhoid have followed much the same course; the fall and rise in the military statistics corresponding on the whole with the fall and rise in the admissions into the civil hospitals of the Irish metropolis. This will be seen from the following figures:—

Cases of Enteric Fever admitted from amongst the Troops in the United Kingdom.

Year	Strength	No. of cases	No. of deaths	Ratio per 1,000 of admissions
1867	73,420	21	8	·313
1868	78,261	24	3	·307
1869	73,764	42	12	·570
1870	75,305	67	14	·889
1871	92,667	81	22	·886
1872	92,218	83	22	·900

In the last year, viz., 1872, the troops at home and abroad yielded the following ratio per cent. of admissions from typhoid fever, arranged in the order of frequency of occurrence:—

Corps	Strength	Per centage of admissions	Total admitted	Total died
Cavalry, .	10,532	·057		
Household cavalry, .	1,200	·083	83	22
Infantry, .	44,551	·085	—	—
Royal artillery, .	12,957	·154	—	—
Foot guards, .	6,181	·162	—	—

All arms abroad.

Cape and St. Helena, .	2,484	·040	1	0
Bermuda, .	1,770	·113	2	0
Straits Settlements, .	708	·191	1	0
Ceylon, .	1,001	·200	2	0
Mauritius, .	469	·213	1	0
Gibraltar, .	4,066	·270	11	3
West Indies, .	1,012	·286	3	1
India, .	59,248	·379	225	102
China, .	769	·520	4	2
Malta, .	4,855	·600	29	10

Total admissions abroad, 279; total deaths, 118.

The average per centage of admissions at home being ·108.

The average per centage of admissions abroad being ·280.

The deaths to attacks in the United Kingdom were about 1 in 4; abroad 1 in 2. The disease in tropical and semi-tropical countries being twice as fatal, owing probably to its being complicated with malarious (typho-malarial?) and other diseases or their sequelæ and the patients not being placed under as favourable conditions for a successful dietetic treatment. It will be seen from the above

figures that the garrison of Malta, a station very imperfectly drained and largely impregnated with sewage, and where many of the buildings converted into barracks were old storehouses of the Knights who in olden days ruled there, yielded the largest percentage of the whole. It is also evident from these same figures that typhoid fever is a disease endemic in our military garrisons, and that on the whole it seems to follow very much the same course in its increase and decrease in civil and military life, the same epidemic and local influences acting indifferently in both. A study of the army returns will also show that while cases constantly occur, the number of admissions during certain years have been increased, as in civil life, by local outbreaks. In 1860 one of these occurred at Shorncliffe. The cases in this instance originated in the hospital, patients undergoing treatment being alone attacked. The construction of the water-closets was found on examination to be faulty, the drainage bad, and the water contaminated by a foul tank. Upon evacuating the building and remedying these evils, fresh cases ceased to present themselves. A serious outbreak also occurred at Pembroke Dock in 1869, yielding 41 cases and 13 deaths; it was attributed to fæcal poisoning through the air.

In 1871 the excess in typhoid admissions occurred at Aldershot and Mullingar—28 cases and 7 deaths at the first; 18 cases and 2 deaths at the last station. In 1874 outbreaks of this fever occurred at the military prisons of Limerick and Dublin, traced also to fæcal poisoning, and in the present year at Dungannon Fort, where it had been some years since epidemic. A glance at the figures below will show the various forms of fever from which our soldiers suffered in 1872, and from which it will be seen that simple continued and febricula preponderated largely.

	Admitted	Died
Typhus	5	2
Enteric	83	22
Simple continued fever	512	8
Febricula	948	0

Fever is never absent from Dublin. It appears to be an endemic and epidemic disease, and seems to depend especially upon the weather, presenting a tendency to prevail in the first quarter of the year. It becomes very fatal in the autumn, when the mean temperature falls below 54°, the mortality continuing to rise with the falling temperature. As the summer goes on typhoid

shows, according to the tables published by Dr. J. W. Moore, a decided tendency to increase at an earlier period than typhus. There is a striking increase in the percentage of the amount of typhoid towards the close of the year, while the highest percentages of typhus are met with in the contrary seasons of winter, spring, and early summer; the reasons, as has been frequently shown, being that typhus is often intimately related to overcrowding, and bronchial and thoracic affections are amongst its most frequent complications, while typhoid is connected with a specific contamination of air and water by sewage matter, and its secondary phenomena are developed generally in connexion with the digestive system. Hence its greater prevalence when the autumnal rains wash into the sources of water-supply the decomposing matters, which were innocuous as long as the skies were rainless.

Unfortunately for our troops, many of the fever haunts so graphically described by Dr. Grimshaw and others, are in the immediate vicinity of their barracks, and not unfrequently have the same network of sewers. That cleanliness, pure water, good drainage, and other sanitary improvements reduce the number of admissions from enteric fever has been proved, not only by the general death-rate, but by the mortality in certain towns before and after the completion of sanitary work. Of the four forms of fever observable in Dublin—viz., simple continued, typhus, typhoid, and relapsing—some local physicians of eminence think the first a mere attempt at the other two next in the list—namely, typhus and enteric fever—but not sufficiently developed to be able to identify it with either. In other words, that simple fever is sometimes merely typhus without any eruption, non-maculated typhus. This opinion is based upon the fact that it nearly always prevails where there is typhus and enteric, and also because many houses furnish the three forms of fever together. Dr. Cheyne, Physician-General to the Forces in Ireland, refers to the same fact in 1816, when writing—"It happened on several occasions that we had to admit five or six persons from the same house, part of whom laboured under a fever with a typhoid debility, while the more recent cases chiefly belonged to the species of fever I have described at length!" Dr. Cheyne divided the fevers which he saw at this time in the Hardwicke and General Hospitals into three principal varieties—viz., typhus, pituitous or bilious, and gastric, pulmonic, or cephalic. He remarks, in passing, that wet and cold summers always proved healthy ones in Dublin.

According to the Registrar-General's returns, Dublin, with a population of 314,666, yielded during 1873-74, and to 30th November, 1875, the following number of deaths from fever:—

Typhus			Typhoid			Simple Continued Fever		
1873	1874	1875	1873	1874	1875	1873	1874	1875
54	103	42	144	182	125	53	61	39

It will be seen from these figures that not only was the febrile poison more active in 1874, but that this increase was spread over all the forms of fever, and not confined exclusively to typhoid. Among the troops, however, the admissions were almost confined exclusively to typhoid, owing probably to the fact that some of the essentials to the production of typhus—viz., want of food, proper clothing, *plus* undue exposure to wet and cold and overcrowding—were entirely absent, whereas the defects in the mode of getting rid of the excretions were not infrequent.

The exact numbers admitted into the General Hospital were:—

1868	.	.	2
1869	.	.	4
1870	.	.	7
1871	.	.	3
1872	.	.	11
1873	.	.	15
1874	.	.	29
1875	.	.	12

All cases of typhoid.

As has been frequently noticed by those who have had much experience of fever, the type of the disease, and even the symptoms and complications, varied according to the source of the poison, and where the source of the poison was evidently the same the symptoms and duration of the disease varied immensely, one member of a family having rose-coloured spots and diarrhœa, and a prolonged fever of eight or nine weeks' duration, while other members of the family would have neither diarrhœa nor eruption, and the duration of the disorder would be ten to twelve or twenty-one days. I have observed this also among soldiers. In the garrison of Dublin the disease in 1874 appeared amongst the men in the form of a series of small local outbreaks, solitary cases being the exception. For instance, we had in January 2 cases admitted from among the men of the Royal Artillery quartered in Portobello

Barracks; in March and April 4 cases from among the Guards, stationed at Beggar's Bush; next 3 cases from the 17th Lancers, at Island Bridge, in May; and 16 cases from the Military Prison—1 in August, the remainder in November and December—isolated cases occurring in September, November, and December. In 14 admissions to hospital the ultimate results are stated. Of these, 7, or 50 per cent., were sufficiently recovered on leaving hospital to resume their duties in the ranks after intervals varying from 32 to 74 days, according to the severity of the symptoms; 5 required sick furlough before joining, and 1 was invalided for phthisis, and 1 case terminated fatally.

With the beginning of the present year a decrease in zymotic disease commenced, the April quarter of the Registrar-General's Reports showing 323 or 12 per cent. of the total deaths in Dublin against 501 in the last quarter of 1874; the July quarter 251, or 13·2 per cent. of the total, 166 less than the same quarter of the preceding year; the October quarter 326, or 23·2 per cent. against 540 deaths from zymotics in the corresponding quarter of the year before—an annual ratio of 5 per 1,000 of the population. We find, naturally, a similar decrease in the number of deaths from fever, and the decrease—as with the increase—is not confined to any one form of the disease, but to all, as will be seen below:—

1st January to 30th November inclusive.

	Typhus	Typhoid	Simple continued Fever
1874,	100	169	57
1875,	42	125	39
	<hr/>	<hr/>	<hr/>
Decrease,	58	44	18

A corresponding decrease has taken place during the same period in the garrison:—

Admissions into Military Hospitals, same period.

	Typhus	Typhoid
1874,	1	25
1875,	0	12
	<hr/>	<hr/>
Decrease,	1	13

As in last year, two at least, if not more, of these cases were contracted away from Dublin. As compared with former periods, the garrison is now exceptionally healthy. In 1872, the date of the

last published Army Medical Reports, the ratio per 1,000 of admissions from continued fever was 29·90. In the eleven months ending 30th November, 1875, it was only 2·72. In the same year the mortality from these fevers was ·40 per 1,000; in the present year ·20 per 1,000. As already pointed out, the mortality from zymotic diseases among the civil population in the quarter ending 1st October of the present year, was equivalent to a ratio of 5 per 1,000; among the troops, including women and children, it was only 1·70, or about a third less; and, with regard to typhoid fever, the same favourable results were observed. In the 11 months ending 30th November, 1875, the mortality from this variety of fever in the civil population of Dublin was equal to a ratio of ·04 per cent.; in the garrison to only ·02. The low rate, then, of zymotic diseases; as a whole, the entire absence of typhus, and the small rate per cent. of mortality from enteric fever, speak very favourably for the sanitary efforts of the military authorities in Dublin, not only to prevent disease, but to arrest its progress when detected.

The symptoms of the fever observed in the wards of the hospital were, on the whole, very similar in character—a premonitory stage of lassitude and fever, dull expression of countenance, coated tongue, quick pulse, temperature above 102·3°, flushed face, diarrhœa varying in amount at first, but afterwards increasing to 6–11 stools a day, of the usual pea-soup character, passed towards the close of bad cases involuntarily. Small rose-coloured spots were well marked in most of the patients, either upon the chest or abdomen, where gurgling and slight tympanites were detected upon pressure and percussion. In the worst cases there were delirium, anorexia; decubitus on the back; dry-coated tongue, red at the tip and edges; sordes, the skin feeling hot and dry; the urine loaded with sediment, phosphates, or urates, and of a dark brown colour. In all there was great failing of the powers of life and strength, and in many of those who recovered emaciation, loss of strength; and in some a certain state of fatuity, paralysis, and abscesses in the cellular tissue denoted the intensity and severity of the disease. In several there was a marked crisis, such as a sudden fall of temperature, large flow of urine, rigors, crop of sudamina, or profuse sweating.

In ten of twenty cases, or one half, slight or severe bronchial complications were present; in six the complications were either hæmorrhage from the bowel, evidences of cerebral congestion or nervous exhaustion serous effusion, abscesses in the cellular tissue,

prolonged convalescence, debility, or throat symptoms; the remainder (four) were uncomplicated; five, or a third, proved fatal. Many of these cases were especially interesting. Time, however, only permits of my alluding to one or two of these illustrating some special feature of interest.

One of the fatal cases occurred in the person of Trooper Henry H., 5th Dragoon Guards, age twenty, service in the army 7½ months. He was transferred from his regimental hospital at Arbour-hill on the 12th October, 1874, to the General Hospital. For some days previous to his admission he had been treated for diarrhoea. The symptoms observed on admission to the fever wards were—great prostration, feverishness, anorexia, and a drawn face, dusky countenance, loss of strength, confusion of intellect, looseness of bowels. On the night of admission he passed four pea-soup coloured stools, one of which contained numerous white shreds. There was tenderness of the abdomen, and gurgling in the left iliac fossa on making firm pressure in this situation; the urine was brown, and loaded with crystals of the triple phosphate, but contained no albumen. The skin was hot and dry, the tongue red at the tip and edges, coated posteriorly; great thirst was complained of. These symptoms were followed by low nervous delirium, decubitus on back, rapid and feeble pulse, difficult to count, incessant purging, great abdominal tenderness, urine becoming darker in colour, sleeplessness, brown and thickly-coated tongue, cracked in the centre; the evening temperature had now risen, on this, the third day after admission to hospital, to 103·2°. On the fourth day after admission his state had become very critical, the heart's action very faint; finally, coma supervened, with subsultus. He died on the following day at 6 p.m., the stools and urine having been passed involuntarily. The *post mortem* examination showed extensive ulceration of Peyer's patches, which were in a sloughy condition—great raised yellow masses; the smaller glands were also ulcerated or inflamed and tumified, and most of the intestinal viscera were dark and congested. About this time a very instructive case of typhoid dyscrasia was under treatment, the original symptoms simulated those of *delirium tremens* very closely; evidence of great pneumonic condensation of the bases of both lungs was present. The patient died delirious and comatose. The *sectio cadaveris* revealed extensive ulceration of the ileum. This sergeant had been a very hard drinker. Another patient, a recruit, with well-marked typhoid, came into hospital with symptoms of

high fever and a state of nervous commotion closely resembling delirium a potu. He had afterwards rose spots on the abdomen, frequent purging of yellow fluid stools, a temperature of 104° , restless nights, heavy delirium requiring restraint, a glazed and red tongue, and a protracted convalescence, accompanied by abscesses, anæmia, loss of flesh, and great debility. Boils or abscesses over the buttocks or in the cellular tissue of the lower limbs, were among the most troublesome and serious of the after-symptoms, inducing as they did a very depressed state of the system and dangerously low vitality. In some instances the parts would slough away, and in one case, that of a guardsman, symptoms of pyæmia followed upon several of these abscesses, the patient ultimately dying worn to a shadow from the combined effect of the fever and colliquative diarrhœa, which scarcely permitted him to remain off the stool for a moment. In another fatal case the first stage of the intestinal lesion was beautifully marked. The small intestine was red, arborescent, the membrane velvety, with patches of effused blood, but no ulceration. The contents were of the characteristic consistence and colour. The mesenteric glands were tumified. The other viscera were very much engorged with blood, especially the liver, kidneys, and spleen.

In civil life, according to Dr. Cheyne, most patients are brought to an hospital from the fourth or fifth to the tenth or twelfth day of fever. In several cases I have been enabled to fix this period with the greatest accuracy, with the following results:—

Two men were more or less out of sorts during 14 days.

Two	„	„	10	„
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One	„	„	8	„
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Three	„	„	7	„
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One	„	„	4	„
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Two	„	„	3	„
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One	„	„	2	„
-----	---	---	---	---

One	„	„	1	„
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In four cases the disease commenced with symptoms of an ordinary cold; in three with fever; two dyspepsia; in some others with "pains," diarrhœa, &c. Ten days was the average period of incubation. The following case, which terminated fatally, serves to illustrate some of these points; he had been an inmate of the Military Prison; private Henry S., 17th Lancers:—

3rd November, dyspeptic symptoms.

4th. "A cold" complained of.

5th. "A cold" complained of.

6th. Admitted to hospital with febrile symptoms; evening temperature $103^{\circ}0$; bowels relaxed; skin dry and hot; tongue furred.

7th. Bowels moved six times; breathing quick and laboured; cough; brown tongue.

8th. Pulse 104; weak; passed six stools; signs of capillary bronchitis in both lungs.

11th. Very weak; restless; aphthæ on tongue; urine high-coloured and scanty.

14th. Respirations quick and gasping.

15th. Sinking; extremities cold; diarrhœa continuing; pulse scarcely perceptible.

16th. Evening temperature $104^{\circ}6$.

17th. Temperature $101^{\circ}6$; extremities cold, almost pulseless; stools passed involuntarily; died; was sensible up to a few moments before death.

18th. *Post mortem* examination.—Body emaciated; lungs, liver, spleen, kidneys congested; mucous membrane of ileum covered with small ulcers in different stages of formation; Peyer's patches especially affected.

This was a fourteen-day fever terminating fatally. As a rule the numbers of stools passed during the twenty-four hours were excessive, 4 to 9; the pulse very frequent, 110 to 130. The majority of those treated were between eighteen and twenty-four years of age, three-fourths being under their twenty-fifth year.

According to Wunderlich, we may exclude typhoid fever when, between the fourth and sixth day in a child or adult under middle age, the temperature fails to reach $103^{\circ}1$ Fahr., or if it fails to reach it two or three times. Sir William Jenner, a very high authority on all febrile diseases, thinks that there are so many exceptions to this law, that, as a law, it would, according to him, hardly exist. Dr. Smith Shand, of Aberdeen, has stated that he has had occasionally typhoid cases in the hospital of that town—"When about the sixth day, the recorded temperature never reached 103° ." The more recent experience of American physicians is confirmatory. Of thirty-six cases treated in the General Hospital, Dublin, nearly all had temperatures reaching to above $103^{\circ}6$ Fahr., mostly on the second, third, or fourth day after admission. In three of these, the evening temperature did not reach as high as 103° at any time. In one fatal case, where the diagnosis was

verified by *post mortem* examination, the evening temperature had never reached higher than 103.6° , but in all the fatal cases it was above 103° . As far as regards typhoid fever, taking it as one of the acute specific diseases, we are told, by very high authority, that it is contagious to a certain extent—that a something is given off from the sick, which can, when properly applied, excite the same disease in another; but what that “something” is, we have not yet learned, and as little is known of the conditions of the system which render this “something” sufficient to the production of the disease in one person, while in another it is inert. Our experience in the General Hospital was very much against the doctrine that the disease was a very contagious one, when due precautions and proper ventilation were attended to.

Having now touched upon the most interesting points in the etiology and pathology of the disease, I will conclude with a few remarks upon its treatment.

Sydenham was the great advocate of the lancet in the treatment of fevers. He recommended that the patient was to be let blood early and largely, as well as when any local determination to any particular part took place, as when there was headache with delirium, cough, and oppression of the breathing, looseness, &c. His practice was followed by the physicians of the early part of the 18th century. Beddoes went so far as to propose that leeches should be applied “by relays of dozens” when inflammation of the intestines was suspected; and Dr. Cheyne bears testimony to the fact that, in the Cork-street Fever Hospital, Dr. Mills, in the early part of the present century (the Summer of 1812), employed blood-letting as a remedy for the then prevailing fever with irritation of the intestines, in many cases with relief to the patient, and in no case with detriment. In the Hardwicke Fever Hospital a mixed system seems to have prevailed during the prevailing fever of 1816–17, as evidenced by the Table below, given by Dr. Cheyne in the Dublin Hospital Reports:—

Admissions	Fatal Cases	Blood-lettings	Leechings	Cup-pings	Port Wine Ounces	Punch Pints	Porter Pints
780	53	587	171	35	8,287	29½	1,011

The mortality under this system was 1 in 11.

Of 40 patients shown in a Table, 19 were not blooded, and 21 were let blood in varying quantities. As far then as we can see, moderate blood-letting in those days was not hurtful. What a

revolution in practice has taken place since those times! In later days we adopt a line of treatment altogether different, more simple, rational, and, in great part, dietetic. In the General Hospital, on admission the patient was given a warm bath and then placed comfortably in bed, given milk diet, with one or two pints of beef-tea, and lemonade or soda-water, and such extra milk as he required. If there was much heat of skin, some simple diaphoretic, cold was applied to the forehead, the hair having been previously cut close. If the diarrhoea was excessive, a little mild chalk mixture, but, as a rule, it was found to be the better practice not to meddle with this latter discharge. As the disease progressed and symptoms of debility appeared, such as delirium at night, restlessness, a brown and dry tongue, quick and weak pulse, the quantity of beef-tea and milk was increased, and the administration of stimulants was increased *pari passu* with the gravity of the symptoms and weakness and rapidity of the pulse. These stimulants were always found to have a good effect when the patient was very low, but proved injurious during the increase or normal rise of the fever. The use of the stimulant caused a sense of relief, steadied the pulse, and moderated the restlessness and delirium. Sleep was occasionally procured by the administration of Dover's powder or chloral at night; and in some cases the head symptoms were relieved by the application of small blisters behind the ears; determination to the lungs by jacket poultices, sinapisms, expectorants; abdominal tenderness and meteorism by turpentine stupes; throat symptoms by chlorate of potash gargles, medicated vapours, &c. Where during convalescence, exacerbation of fever occurred, a mild dose of castor oil was administered with the best effect. Ale, porter, and port wine were given, during convalescence, with chicken diet. The foregoing comprised the principal points worthy of notice in the treatment of the disease.

ART. III.—*The Chondro-coracoid Muscle.* By KENDAL M. FRANKS, M.B., Univ. Dub.; L.R.C.S.I.; Demonstrator of Anatomy, Royal College of Surgeons.

THE anomaly of the muscular system, which I venture to lay before the readers of the *Dublin Journal of Medical Science*, is one deserving of attention, both on account of its comparative rarity and the peculiar features exhibited in this case. It occurred in a

subject which was brought into the dissecting room of the Royal College of Surgeons towards the end of November last.

A muscle was found arising close to the lower border of the great pectoral, yet having a direction perfectly distinct from this latter. The great pectoral in this instance had not an origin from the cartilage of the sixth rib, but derived a few of its lowest fibres from the cartilage of the fifth. Immediately adjoining this origin, and closely connected with the great pectoral itself for about an inch, the small muscle to which I allude was seen to arise. It had a well-marked tendinous origin from an inch and a half of the anterior surface of the fifth costal cartilage at its junction with the rib, and a few fibres from the rib itself. An expansion from this tendon was intimately connected with the aponeurosis of the external oblique. The tendon was from $1\frac{1}{2}$ inches to 2 inches in length, about $\frac{3}{4}$ of an inch wide, and very thin. It terminated in a fleshy belly more cylindrical than fusiform, at no time exceeding $1\frac{1}{2}$ inches in circumference, and being $6\frac{1}{8}$ inches long. It passed upwards, backwards, and outwards, gradually passing under cover of the pectoralis major, and terminating in a tendon which soon divided into three others. These were inserted in the following manner:—The most anterior, taking a direction more distinctly upwards than the muscle itself, united with the lower border of the tendon of the lesser pectoral, and could be distinctly traced to its insertion into the coracoid process. This tendon was $3\frac{7}{8}$ inches in length. The second, more in the direction of the muscle itself than either of the others, joined with the lower border of the latissimus dorsi and, accompanying it, was lost on the inner lip of the bicipital groove, immediately below the latter; the third, more membranous than the preceding, was reflected backwards and a little downwards, where it was lost in its intimate connexion with the fascia forming the floor of the axilla. This was on the left side.

It was difficult to determine whether this anomaly were bilateral or not, as the other side had been dissected previous to the discovery of the anomaly on the left side. Many of the parts had been disturbed and many of them cut away. I believe, however, that it was not so.

Dr. Macalister, in his Catalogue of Muscular Anomalies,* mentions a case somewhat similar, in which the muscle arising from the fifth costal cartilage was inserted into the coracoid process. Mr. Wood, who has given this muscle the name of *Chondro-coracoid*,

* Trans. Royal Irish Acad. Vol. XXV. Part I. P. 45.

published a case in which the slip was inserted into the fascia covering the coraco-brachialis, as high up as the coracoid process.^a Mr. Perrin says that he has only met with one such instance,^b in which the muscle was inserted into the coracoid process also.

Sometimes a muscular slip having the same origin, after ascending into the axilla, curves downwards, and is inserted into the upper part of the inner condyle of the humerus; this Mr. Wood has named the *Chondro-epitrochlearis*. He describes several cases of it. Cruveilhier^c gives a short account of it, though he makes no mention of the chondro-coracoid. When the slip terminates in the internal brachial ligament, which usually occurs from two to six inches above the condyle, it is named the *chondro-fascial*. These varieties appear to be much more common than the chondro-coracoid.

Amongst cases of this latter muscle, that which I have described has some special characters. Its three-fold insertion is different from any of the examples which have come under my notice, excepting one case reported by Dr. Macalister, in which the slip sent a few fibres to terminate in the fascia of the axilla.

The chondro-coracoid, Mr. Wood tells us, forms in the Norway rat and rabbit a separate element distinct from the other pectorals.^d

^a Royal Society Proc. 1868. P. 491.

^b Journal of Anat. and Physiology. 1871. P. 234.

^c Traité d'Anatomie descriptive. Vol. II. P. 149.

^d Loc. ant. cit. P. 491.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

An Introduction to Pathology and Morbid Anatomy. By T. HENRY GREEN, M.D. London: Henry Renshaw. 1875. Pp. 424.

THIS little book has already done good service, and we are glad to find it has passed to a third edition. Its present form is no mere reprint. A cursory glance will suffice to show that the author has spared neither trouble nor expense to bring the work up to the requirements of the day. Old woodcuts are in many instances replaced by new, besides which a large number of illustrations, entirely new, are added. The text also has been changed in many places, and considerably augmented; and has been brought, on the whole, well up to the results of recent research.

Some chapters are transposed. That on "Fatty Infiltration" is now—we think rightly—placed before that on true "Fatty Degeneration." In the chapter on Lymphomata we find the class "Simple Lymphoma" entirely omitted, and the subject treated as identical with "Hodgkin's Disease," except where the additional symptom of leukæmia exists. We were somewhat startled at the statement that "clinically the lymphomata are, for the most part, perfectly innocent tumours," as we—probably because our idea of these tumours is not exactly that of the author—should think this too sweeping a change from the statement in the second edition, that "clinically these growths are exceedingly malignant."

We cannot refrain from again finding fault with the author for retaining the word "cancer" as an anatomical term. We repeat that it is certainly *not histological*; but, on the contrary, is *macroscopical*, which is practically identical with *clinical*, in so far as this latter term relates to physical properties. We regret, moreover, that the author has retained the old divisions into "Scirrhus," "Encephaloid," &c., and cannot but regard it as a piece of eclecticism which must necessarily tend to confusion. The "encephaloid cancer" of the last generation is now known to be as often

"sarcoma" as "soft carcinoma;" and if we now needlessly use this term as a histological equivalent, it is obvious that we thereby engender the greatest possible ambiguity.

Annales des Maladies de l'Oreille et du Larynx (Otoscopie, Laryngoscopie, Rhinoscopie). Fondées et Publiées par MM. LADREIT DE LACHARRIERE, Médecin en chef de l'Institution Nationale des Sourds-Muets; ISAMBERT, Agrégé libre de la Faculté, Médecin de l'Hôpital Lariboisière; Dr. KRISHABER, Professeur libre de Pathologie Laryngée. Tome I. Nos. 1 & 2, Mars, 1875. Paris: G. Masson.

It is with pleasure we welcome this new journal, the founders of which point out that neighbouring organs, though anatomically distinct and separable, are yet so intimately connected with each other, in a pathological point of view, that it is impossible practically to study their diseases separately and apart. How often, they ask, is deafness not caused by affections of the nasal fossæ or of the pharynx; and are not the diseases of the larynx often of the same nature as those of the pharynx? They advocate very fairly the sub-division of labour, and consider it for the public advantage that specialities should exist.

Associated with the originators are a number of contributors whose scientific reputations are known even outside their own country.

A Practical Treatise on Diseases of the Eye. By ROBERT BRUDENELL CARTER, F.R.C.S.; Ophthalmic Surgeon to St. George's Hospital; Surgeon to the Royal South London Ophthalmic Hospital; Consulting Surgeon to the Gloucestershire Eye Institution; Hunterian Professor of Surgery and Pathology to the Royal College of Surgeons, England. With numerous illustrations. London: Macmillan & Co. 1875.

RARELY is such a treat in store for the medical reviewer as that afforded by the perusal of Mr. Carter's book—a perusal which has given us unqualified satisfaction and pleasure, for there is an absence of all unnecessary verbiology, and of that mongrel nomenclature, composed of bastard Latin and Greek, so dear to

the heart of the pedantic bookmaker; and the book is written in simple English of unusual purity amongst medical writers; while the scientific portion must meet with the approbation of all impartial judges. We would, indeed, hold this charming volume up as a model to medical authors; and while we congratulate its author on its unusual merits, we must also accord no little or stinted praise to the eminent firm of publishers, who have brought out the work in their usual creditable style. Mr. Carter, already well known by his translations of Zander and Scheffler, as well as by his practical modification of the ophthalmoscope for demonstrating purposes, and his ingenious perimeter, has, we consider, an additional claim to the approbation of the general profession by this popular and concise exposition of one of the most delicate and difficult branches of medical science.

In style the work is more that of a monograph than of the modern vade-mecum; it evidently presupposes the reader to possess some practical acquaintance with the diseases treated of; and therefore, in some cases, alludes to the symptoms, but in a most cursory manner, and in this respect is not best calculated to catch the passing glance of the student or the hard-worked busy practitioner; the work is one to be read and studied in conjunction with clinical work, and thought over by those whose object it is to obtain a real and lasting knowledge, and to apply such knowledge in practice.

Mr. Carter advises the administration of anæsthetics in ophthalmic surgery, and prefers ether for the reason that, according to him, it is safer, while chloroform is occasionally followed by death. We would direct attention to Mr. Carter's method of occasionally making an iridectomy by means of Wecker's scissors as a most practical one; to his remarks respecting the abscission of staphylocoma by a modification of the old operation described a quarter of a century ago by Sir William Wilde, and more recently by Mr. Critchett; and to his most practical hints on cataract and the removal of opaque pupillary membranes. His advice "to enucleate the eyeball without delay, while the patient is still under the influence of an anæsthetic," in case of intraocular hæmorrhage occurring during the operation of extraction of cataract, while, no doubt, surgically sound, is, however, open to objection, for the operator might thereby render himself liable to an action at law for removal of an important organ without the patient's consent. Mr. Carter states that choroidal sarcomata "are extremely rare," and

implies that they are more rare than gliomata—an experience which differs, we think, from that of other surgeons.

The ophthalmoscope yields the most important information, and often the earliest evidence of disease of other organs, and notably of the kidneys and brain—some enthusiasts have gone so far as to declare that every variety of meningitis and every cerebral lesion was reflected in the fundus oculi by certain visible individual characteristics. We have always dissented from such views, and are glad to find ourselves in accord with Mr. Carter. With respect to the “choked disc,” said to be pathognomonic of intracranial tumour, the author quotes an example of this condition, in which there was advanced kidney disease, but no trace of mischief in the brain; and another, where there existed typical albuminuric retinitis, but the patient presented on autopsy healthy kidneys and a tumour in the cerebellum. He says:—

“Proceeding from probabilities to experience, I may say that I have seen almost all possible types of swelled disc, either in my own practice or in the patients in the medical wards of St. George’s Hospital; and thus I have never been able positively to connect any one of those types with any definite condition. I say this with much regret, for nothing could be more agreeable to me than to enlarge the usefulness of the ophthalmoscope as a means of diagnosis. I must add that I have over and over again watched the optic disc, from day to day, in cases of tubercular meningitis. I have seen them become choked, and I have seen them escape entirely; but I have never seen choking occur sufficiently early to be useful in establishing a diagnosis which would otherwise have been uncertain.”

He also draws particular attention, as did Mr. Wilson some years ago in this Journal, to the fact that swelling of the disc, or neuritis, as it is often called, may exist in a pronounced degree, without any impairment of vision.

Mr. Carter dwells with great force on perverted nervous energy, and attributes—correctly, we think—many abnormal tissue changes to deranged nervous function remote from those changes. His remarks on herpes zoster are worthy our best attention, especially as that complaint has been almost epidemic amongst us lately:—

“Physicians were long wont to give a conspicuous place among skin diseases to herpes zoster, or shingles, a pustular eruption which forms a demi-cincture round the trunk of the body, which maps out the cutaneous distribution of certain spinal nerves, and which is attended

and followed by local pain of a severe character. Strangely enough, they overlooked, until quite recently, that a similar affection occurs with sufficient frequency in the cutaneous territory of the first division of the fifth nerve, that it is usually both more severe and more painful than herpes zoster of the body, and that it is liable to be followed, not only by very persistent neuralgia, but also by different forms of eye-disease. Frontal, or trigeminal, or ophthalmic herpes, as it is now commonly called, was often confounded with facial erysipelas; and even within the last twelve months, notwithstanding all which has been written upon the subject, I have more than once seen this error committed. Mr. Hutchinson was, I believe, the first English writer who laid stress upon the true character of the disease; and both he and Mr. Bowman have since described and figured typical examples of it. The points in connexion with its history which are important for my present purpose are that the original eruption is limited to the cutaneous structures, but that, after this cutaneous eruption has run its course, the eye of the same side is prone to suffer in two ways—either by increase of tension, amounting sometimes to absolute glaucoma, or by ulceration of the cornea, which may run on to rapid perforation, and is often attended by iritis. These ophthalmic troubles may appear either singly or together, or sometimes in succession; and they may follow the cutaneous eruption either immediately, or after the lapse of days or weeks. They are frequently associated with intense and protracted frontal or circumorbital pain; and, even when not rapidly destructive, they are often beyond measure obstinate and intractable.

“The nature of herpes zoster, and of the connexion between the distribution of the eruption and that of the cutaneous nerves, was shown about the same time by cases recorded by Bärensprung and Charcot. In Bärensprung’s case, an outbreak of shingles, occurring, without known cause, in a tuberculous boy, extended from the sixth to the ninth rib. More than two inches in width, it commenced posteriorly, not far from the middle line, between the sixth and the eighth vertebræ, and, forming a demi-cincture, it terminated exactly below the ensiform cartilage. The boy completely recovered from the shingles, which followed a regular course; but he died of phthisis six weeks after the first appearance of the eruption. The spinal ganglia of the sixth, seventh, and eighth nerves were found to be firmly adherent to the parietes of their intervertebral canals. The connective tissue in their neighbourhood exhibited inflammatory redness, and the ganglia, as a whole, were increased in volume. The microscope showed that the neurilemma presented unquestionable traces of inflammation. There were, properly speaking, no discoverable changes in the nervous elements, either of the ganglia or of the nerves themselves. In Charcot’s case the patient was a woman seventy-eight years of age, who died in the Salpêtrière. In

this instance, again, the intervertebral ganglia and intercostal nerves, corresponding to the surface attacked by shingles, presented the same appearances as in that last described.

"The publication of these cases led irresistibly to the inference that the cause of herpes frontalis must be an inflammation of the Gasserian ganglion, or of its coverings; and an opportunity of establishing the correctness of this inference on the *post mortem* table was soon afterwards afforded. We know, therefore, that destructive inflammation of an eye may be excited by irritation of the ganglion on the sensory root of the fifth nerve; and the patients who suffer from frontal herpes are so numerous, and appear to have so little in common in other ways, that here again we may safely exclude the operation upon the eye itself of either constitutional or local causes."

We regret that space will not allow of further quotations from this most interesting and instructive work, especially from Chapters IV. and V., which are worthy of constituting the preface to all future works on ophthalmic medicine and surgery. We commend the volume, not merely to the specialist, who must possess it, but to the members of the profession generally, with whom its charming diction and vast general information must render it a great favourite.

Diseases of the Hip, Knee, and Ankle Joints, and their Treatment.

By HUGH OWEN THOMAS. Liverpool: T. Dobbs & Co., 69, Gill-street.

THE literature of the surgical affections of joints receives its latest contribution from Liverpool. Mr. Thomas is a surgeon practising in that town, and he has had, he informs us, exceptionally frequent opportunities of observing cases of this description. With so wide a field of study he is entitled to be heard upon a subject of very great interest—namely, the treatment of diseases of the hip, knee, and ankle joints. The book does not profess to deal with the etiology or pathology of these affections, but is altogether devoted to the stating of what are claimed to be novel principles of treatment, and the description of a new and efficient method based upon these.

The diagnosis of the earlier stages of morbus coxæ is a difficulty which is at times not satisfactorily overcome, and we therefore give in Mr. Thomas's words the tests which he adopts:—

"Having undressed the patient and laid him on his back on a table or other hard plane surface, the surgeon takes the sound limb and flexes it, so that the knee-joint is in contact with the chest. If the patient be thin and spare, let the limb be pressed and maintained on the chest firmly, but if the patient be stout, let there be a little less pressure. Thus the surgeon makes certain that the pelvis is in normal line with the spine, and fixed thus, the sound limb becomes a lever wherewith to maintain this normal position. Now let the surgeon attempt to pass his hand between the lumbar spine and the table. If not able to do so, then the diseased limb must take his attention, while an assistant maintains the flexion of the sound limb on the chest, which controls the spine and pelvis. He then requests the patient to extend the diseased limb, at the same time assisting him very gently and slowly to its utmost range of extension. The amount of flexion shown in the illustration, Plate 3 (an angle of 160 degrees with the pelvis), indicates, according to my observation, an inflammation of about six weeks' duration. The angle gradually decreases as the disease progresses, if uncontrolled; the amount of flexion indicating the duration up to twelve months, which at that period often reaches a right angle. If now the healthy extremity be released, the patient, if one who has suffered but a short period, may be able to extend the diseased limb perfectly straight, so as to conceal the flexion, but if the surgeon places his hand under the spine, he will detect the curve as depicted in Plate 5, which curve is produced in the tilting of the pelvis, and obscures the slight contraction that is invariably present, even in the earliest stage, and so falsify an examination by the old method."

The observation of curving of the lumbar spine is certainly not strange to practical surgeons, although Mr. Thomas's plan of fixing the pelvis by flexing the thigh upon it seems to be a useful suggestion. It is to be remembered, however, that other causes than *morbus coxæ* may produce this curvature, and the author does not give any satisfactory rule for distinguishing them.

Being altogether dissatisfied with the appliances invented by other surgeons for the treatment of joint diseases, Mr. Thomas has devised two or three apparatus upon a new principle. We must refer the reader to the book itself for a detailed description, but it may be briefly stated that the splint for the thigh is composed of a light iron band extending from the inferior angle of the scapula to the calf of the leg, and so bent as to be adapted to the various curves of the body over which it passes. This is fixed in position by three encircling bands—one at the thorax, one two inches below the fold of the buttock, and the third at the calf. The patient is

kept in bed until the night pains have ceased. He is then allowed to go about on crutches, a patten being placed on the boot on the sound side, so that the diseased limb is kept from the ground. In the next stage the patient only uses the splint during the day, and finally discards it.

The treatment of affections of the knee and ankle is upon the same principle. It is to be remarked, however, that the prevention of friction in these cases is not a new idea, and that Mr. Thomas does not enjoy the undivided merit of following that plan or of discovering it. We think we may safely assert that it forms the basis of the treatment of these cases in every hospital in the kingdom. There is not, then, much that will add to our knowledge in this book; but we think the splints which he figures are likely to attain their object, and because of this they are deserving of being fairly tried.

La Iimonea Cloroidrica sperimentata utile e sicura per abortire all'istante il Cholera. Per il DOTT. O. DE STEFANO. 1874. Pp. 75.

ANOTHER panacea for cholera is announced; and by means of a very simple and inexpensive drug Dr. Stefano believes that he can control this dreadful plague, and rob it of its deadliness. His elixir of life consists of a hydrochloric acid lemonade; and after a somewhat lengthy dissertation, he concludes that the cause of all the choleraic phenomena lies in the rapidity and copiousness of the drain of water from the system, and that the hydrochloric drink will immediately and finally put a check to this flux. If we may believe him, the remedy never fails, and is equally successful in sporadic and infantile cholera.

On the Psoriasis or Lepra. By GEORGE GASKOIN, Surgeon to the British Hospital for Diseases of the Skin. London: J. & A. Churchill. 1875. Pp. 206.

WE have looked over this curious book, and have been much exercised in attempting to collect the author's meaning. If any of our readers have leisure to go over the same ground, we wish them better success; and while we here and there light upon a shrewd observation or a suggestive hint for clinical inquiry, we cannot

congratulate the author on the fruits of an experience which, he tells us, has been of no common kind. The style, which is hazy and involved, is marked by a quaint mannerism, and some of the sentences, running on to eighteen lines, are quite unintelligible. Some interest is awakened by a digression on the history of the use of arsenic in diseases of the skin; and Dr. Thomas Girdlestone, a physician practising at Yarmouth in the beginning of this century, is credited with being the first to boldly recommend the use of arsenic in the treatment of psoriasis and other forms of cutaneous disease. To English physicians, indeed, belongs in great part the honour of having firmly established the therapeutical value and harmlessness of judicious arsenical medication.

Proposta intorno la cura della Lissa detta comunemente rabbia canina o idrofobia. 1875. Pp. 32.

DR. CADET has great faith in the marvellous virtues of the black sulphide of mercury (ethiops mineral), and, in this pamphlet, he suggests the use of his favourite remedy to combat hydrophobia. He would not omit the usual rational precautions of ligature, suction, and cauterisation, but would supplement them by the internal administration of the mercuric sulphide.

Key to Skin Diseases, consisting of Charts, with explanatory Notes.

By TILBURY FOX, M.D., F.R.C.P. H. Renshaw. 1875. Pp. 10.

IN compassion to the student and, we may add, the junior practitioner, who feel bewildered among the chaos of names that confronts them, Dr. Fox has prepared what may be called a concentrated essence of dermatology, which he hopes will smooth the road to beginners. The Synopsis is arranged under six sections—viz.: “Rules for Observing Skin Cases;” “Classified Chart of Eruptions;” “Elementary Lesions, and Secondary Changes;” “General Causes of Skin Diseases;” “Diagnosis;” and “Therapeutical Headings.”

There is nothing novel in these Tables, which are simply abstracts of portions of Chapters I., III., IV., V., and VI. of the third edition of his well-known large manual.

We have no doubt that the charts and short rules will prove serviceable to learners, who do not care to possess themselves of the large work, and may serve as a useful skeleton plan for teachers to work on.

Atlas of Skin Diseases, consisting of a series of Coloured Illustrations, together with descriptive Text and Notes upon Treatment.

By TILBURY FOX, M.D., F.R.C.P. London: J. & A. Churchill. 1875. Parts I., II., and III.

WE have much pleasure in noticing this publication, Parts I., II., and III. of which have reached us, and we think that the publishers are amply justified in expecting a large circulation in answer to their effort to supply the profession with a *complete* and highly finished illustrated guide to dermatology at a very moderate charge. Of the seventy-two proposed plates, more than half will be original, the remainder being an improved re-issue of "Willan and Bateman."

For the twelve plates in the first three parts, embracing delineations of twenty-two forms and varieties of skin disease, we have nothing but unqualified praise; and if all the succeeding plates be of equal merit, a lasting and very important contribution to the clinical portraiture of disease will have been made. The descriptive letter-press, which is from the pen of an acknowledged expert, clearly indicates the diagnostic features of the several types of eruption, and we heartily wish this excellent Atlas the success which it so well deserves.

Notes on the Treatment of Skin Diseases. By ROBERT LIVEING, A.M. & M.D., Cantab. Third edition. London: Longmans, Green, & Co. 1875. Pp. 116.

NEARLY three years since we had occasion to notice in terms of warm commendation this excellent little compilation, and the present revised edition, although containing some important additions, both as regards description and therapeutics, is only twelve pages larger than its predecessor. It is the best compendium of cutaneous therapeutics that we know of, and its rapid success is thoroughly well merited.

Posological and Therapeutic Tables. By ALEXANDER HENRY, M.B. Edinburgh: Maclachlan and Stewart. 1875. Pp. 66.

ATTEMPTS to concentrate materia medica into the smallest possible compass have increased in number to an alarming extent, and in Dr. Henry's brief Tables we are unable to detect any claim to raise his little book above the crowd of its competing rivals. We think that the dissemination of these meagre pocket companions should be discountenanced by teachers, as tending to discourage any substantial work on the part of the student.

Medicinal Plants, being Descriptions, with Original Figures, of the Principal Plants employed in Medicine, and an Account of their Properties and Uses. By ROBERT BENTLEY, F.L.S., and HENRY TRIMEN, M.B., F.L.S. London: J. & A. Churchill. 1875. Parts I., II., and III.

THE special object of this work is to serve as an illustrated Botanical Guide to the British, Indian, and United States Pharmacopœias, additional notices of a few non-official plants being incorporated. Great care appears to have been taken to insure accuracy in the botanical details, for which, indeed, the names of the authors are an ample guarantee.

Some of the illustrations, which are printed by Hanhart, from drawings and lithographs by Blair, are fairly good, although not highly finished. Yet we cannot say that they are at all equal in merit to the plates in other works on medical botany with which we are acquainted. The accounts of the properties and uses of the drugs are not only superfluous but sometimes unsatisfactory, and it would have been better to have omitted altogether the notices of "medical properties and uses" than to insert such retrograde teaching as, for example, that "digitalis is a very powerful drug, acting especially as a sedative (*sic*) of the heart's action, and also as a diuretic." The price at which the fasciculi are issued is moderate enough, but it is curious that there is no intimation given in the advertisement as to how many parts the work will consist of, nor at what intervals they will appear.

The Skull and Brain: their Indications of Character and Anatomical Relations. By NICHOLAS MORGAN. London: Longmans, Green, & Co. 1875. Pp. 208.

IN this little work Mr. Morgan has again entered the lists in behalf of his favourite science. Its opening pages are devoted to the examination and refutation of the objections brought forward against Phrenology, especially those of Mr. G. H. Lewes, on whose arguments he passes some severe strictures, and here asserts that "Ferrier's conclusions irrefragably prove that Dr. Gall was on the right track, and that they verify his hypothesis so far as they go, in that the cerebral hemispheres are not homogenous in function, but are constituted of a number of distinct organs having distinct functions," a statement which we believe may be accepted as true, so far as the localisation of *motor centres* in the convolutions go. But evidence is yet wanting in regard to the differentiation of *psychical centres* in the same situation—the essential point in Phrenology—and a problem which has yet to task the energies of the anatomists and physiologists of the next century, on the solution of which the truth or falsehood of the teachings of Gall must ultimately depend. In the following chapters, occupying the major portion of the book, the author treats of "The Will," "The Temperaments," "Cranial Signs of Character," &c., and introduces an outline of the anatomy of the "skull," "brain," "nervous system," "topography of the convolutions," and the "cranio-cerebral relations," drawn chiefly from the researches of Professor Turner, increasing, however, the number of cranial divisions from ten, as described by the latter, to seventeen, on each cerebral hemisphere. The treatise is numerously illustrated with well-executed lithographic and wood engravings, representing the skull and brain in their phrenological relations, and, on the whole, is a work of considerable merit. Without containing anything very new, or adding further proof to the truth of the doctrines of Gall, it gives, in a condensed and popular form, a fair and lucid exposition of the subject on which it treats, and, as such, may prove valuable to those unacquainted with the principles of scientific phrenology.

PART III.

HALF-YEARLY REPORTS.

REPORT ON PUBLIC HEALTH.*

By CHARLES A. CAMERON, M.D., Fellow and Professor of Chemistry and Hygiene, Royal College of Surgeons, Ireland; Medical Officer of Health and Analyst for Dublin, &c., &c.

STIMULANTS IN PUBLIC INSTITUTIONS.

THOSE who read the reports of proceedings of boards of guardians must be struck with the frequent discussions which take place at those assemblies in reference to the increasing cost of stimulants in the workhouse hospitals. Not only has the price of the strongest alcoholic liquor—whiskey—used in Ireland been more than doubled during the last twenty years, but the quantity consumed in some hospitals appears to have been doubled and trebled, and the expenditure in connexion with this item has occasioned great dissatisfaction amongst many boards of poor law guardians. Of course the doctors are directly or indirectly held responsible for this increased consumption of stimulants; but we have reason to believe that the outcry raised against them in some of the unions has not deterred them from ordering stimulants in such quantities as they may have thought necessary.

We do not propose to consider the question whether or not the use of stimulants is necessary in chronic ailments (for it is in the treatment of those maladies that a large proportion of the alcohol consumed in workhouses is employed), but there is one point in connexion with this matter worthy of consideration—namely, the quality of the stimulants. We find that the following stimulants are used in Irish workhouse hospitals and in other infirmaries:—Port, claret, and sherry wines; brandy, whiskey, and porter. In a very few instances Champagne and gin are used. In the case of the stronger alcoholic liquors, their stimulating effect is almost wholly

* The author of this Report will be glad to receive any books, pamphlets, or papers relating to hygiene, dietetics, &c. They may be forwarded through the agencies of this Journal.

dependent upon the amount of alcohol which they contain. No doubt the peculiar flavouring matters in Cognac brandy also exercise some stimulating, and perhaps other, effects, but only when the article is of the best quality. Whiskey, too, contains, in addition to its chief ingredient, minute amounts of compounds* endowed with a high degree of flavour and odour, to which, no doubt, a part of the physiological action of that liquid is due. In the case of wines we have, then, alcohol producing a powerful physiological action, which, however, is greatly modified by the influence of the numerous compound ethers to which the characteristic flavours and odours of those beverages are due. It is certain that alcohol does not produce the same effect when taken in different forms, but that its effects are modified and to some extent counteracted by the influence of many substances which are present in alcoholic liquors. An amount of alcohol which, if taken in the form of whiskey, would produce intoxication, might be taken with impunity if consumed as an ingredient of claret or Hock.

As a large sum of money is annually expended in the purchase of the stimulants consumed in the medical eleemosynary institutions of these countries, it is worth considering this question—What are the cheapest and most efficacious forms in which alcoholic stimulants can be administered? This is a problem by no means easy of solution, but we shall endeavour to solve it in some manner. Let us, however, first consider the quality of the stimulants used at present in workhouse hospitals, and of which we have had very many specimens under examination. Port and sherry are almost the only wines used. They are usually of the lowest class, and very new. Occasionally the quality is decidedly inferior, and the article is quite unsuited for the use of the sick. As a specimen of the so-called port wine which is sometimes supplied to workhouses, let us instance that which we examined some time ago for the guardians of Kilrush Union. This article contained 19 per cent. of alcohol, one pint yielding 1,095 grains' weight of extract, of which 866·8 grains consisted of sugar, chiefly cane, clearly proving that the so-called port wine was a spurious article, consisting mainly of spirit and syrup. We could cite many other instances where we examined wine supplied to public institutions of equally inferior composition, but the above will suffice.

* Amylic, butylic, and propylic alcohols; acetic, and some of the fatty, acids, acetone, aldehyde: acetates and valerianates of amyl and ethyl are generally present in old whiskey.

In some infirmaries porter in large quantity is used, but it is seldom that it is of good quality. In the following Table we give the composition of a specimen of Dublin porter and that of porter supplied to Callan Union Workhouse (county of Kilkenny) and Glenamaddy Workhouse (county of Galway):—

<i>Composition of Porter, 100 parts of each contain:—</i>						
	No. 1	No. 2	No. 3	No. 4	No. 5	
Water, - -	84.19	91.33	91.86	90.00	89.54	
Alcohol, - -	5.60	5.08	4.52	5.00	6.50	
Acetic acid, -	0.15	0.05	0.04	0.10	0.06	
Sugar and dextrose,	8.34	3.02	2.98	4.02	3.20	
Albuminous and bitter principles,	1.40	0.45	0.54	0.56	0.42	
Ash, - -	0.32	0.07	0.06	0.32	0.28	
	<hr/>	<hr/>	<hr/>	<hr/>	<hr/>	
	100.00	100.00	100.00	100.00	100.00	
Total solids,	10.06	3.54	3.58	4.80	3.90	

No. 1.—Findlater's (Dublin) nourishing stout. Nos. 2 and 3.—Porter supplied to Glenamaddy Union. Nos. 4 and 5.—Porter supplied to Callan Union.

The small amount of ash in the porter supplied to Glenamaddy Union is quite remarkable, and leads to the supposition that some of the alcohol in the porter was derived from molasses. We suspect that the sick paupers who had been stimulated (?) with this smallest of small beer did not put up much flesh under its influence.

The whiskey in use in workhouse and other infirmaries is occasionally of pretty fair quality, but far more frequently it is too new for use. When the whiskey is made by the pot still process it contains, when fresh, a large amount of amylic alcohol* (fusel oil), and is therefore an absolutely unwholesome stimulant. We have met with very many samples of whiskey of this kind supplied to charitable institutions. Of late years a kind of spirit, termed patent still whiskey, is largely manufactured, chiefly in Scotland, but also to some extent in Ireland. The spirit distilled by this process is taken off at a comparatively low temperature, and is

* According to Rabuteau, the poisonous effects of amylic alcohol are fifteen times greater than those of ethylic (common) alcohol. Schmidt's Jahrbuecher, Gesam. Med. 1871. B. 149, p. 264.

partially rectified. It may be regarded as intermediate in character between whiskey and spirit of wine, leaning towards the latter. A large proportion of the whiskey supplied to the workhouse hospitals and similar infirmaries consist of this whiskey or of mixtures of patent still and pot still whiskey. The object of adding patent still whiskey to the pot still article is one of economy, the former being ready for use the moment it is made, the latter requiring years to mature it. Another kind of alcohol is known in the trade by the term of "silent spirit." It is chiefly prepared in Germany from potatoes and other starch-yielding materials. It is, in fact, nothing more than spirit of wine, being quite destitute of flavour, in which respect it differs from the patent still whiskey, which has some flavour and odour to warrant its designation of whiskey. We have reason to believe that silent spirit is sometimes mixed with whiskey, and it is a matter of notoriety that it is the chief ingredient in the manufacture of the so-called "Hambro' Sherry." We have ascertained that a large amount of Hambro' sherry is imported into Ireland and sold as a genuine wine. Quite recently we had occasion to examine two specimens of "sherry wine," and the following were the remarkable results which we obtained:—

Composition of so-called Sherry, 100 parts contain:—

	No. 1	No. 2
	Light-coloured	Dark
Water, - - -	73·822	73·632
Alcohol, - - -	23·000	23·000
Sugar, - - -	2·400	2·700
Albuminous matters, &c.,	0·606	0·486
Free acid, - - -	0·110	0·114
Ash, - - -	0·062	0·068
	<hr/> 100·000	<hr/> 100·000

In pure sherry the amount of solid matters never falls below 5 per cent., and is usually about 6 per cent.; whilst in the samples above referred to the solids in each case did not amount to $3\frac{1}{2}$ per cent. They were evidently composed of silent spirit, syrup, and a small proportion of genuine wine. This spurious stuff is largely used in Ireland, and still more largely consumed in England and Scotland.

There is not much claret used in the medical charitable institu-

tions, but the samples of this wine sent to us for examination from these places always proved to be pure, though sometimes rather poor and acid for the use of patients.

We believe that it would be better to use good whiskey instead of the brandy of doubtful quality which is employed in infirmaries. It is only the highest-priced brandy that can be relied upon as being the product of the distillation of wine, for it is a matter of notoriety that immense quantities of corn and of beet-root molasses are used in France in the preparation of brandy. When alcoholic stimulant is to be employed, we think that it would be better to use ordinary whiskey than ordinary brandy, as the latter is more likely to be got pure, if proper precautions be taken. One obvious precaution is to contract only for whiskey of proof strength, for we have met with workhouse whiskey so weak as to be from 20° to 40° under proof. Last year we examined for the Ennis Board of Guardians two samples of whiskey—that sent in as a sample by the contractor when tendering for the supply, and a specimen of the whiskey subsequently supplied in bulk. The former was of tolerably good quality, and 1° under proof; the latter was fresh, full of fusel oil, and 37° under proof! The guardians of unions and the governors of hospitals should advertise for whiskey at least three years old and up to proof strength. Instead of sherry, Marsala might be used; it does not contain so much alcohol, but it is to be got readily in a perfectly pure state and at a moderate price. The Hungarian wine, Carlowitz, is an excellent substitute for port, and, at present at least, is met with in a state of great purity. It seems a wine very well adapted for medical purposes.

The use of effervescing wines is all but unknown in workhouse and other hospitals, owing to their high prices. Champagne, if it be used at all by patients, must be of the best quality; but it is not likely that the patients in charitable institutions will ever be largely *stimulated* with Giesler's "extra superior," or Pomery's "extra sec." Yet there are many diseases in certain stages of which physicians often desire to give Champagne or Moselle, and do so when the patient can afford to pay for these costly beverages. We have lately examined a sparkling wine, termed Saumur, which appears to us exactly fitted for use in our hospitals. Saumur is a district of France close to Champagne. It possesses excellent vineyards, and its climate and soils are admirably adapted for the culture of the vine. Messrs. Gilbey, the well-known wine merchants, have introduced into these countries a wine prepared in Saumur, and

several specimens of which have from different sources come into our possession. This wine closely resembles in its general character the celebrated produce of Champagne, but there are some important differences between the two wines. The sparkling Saumur is a somewhat *thinner* liquid, if we may use the term, and contains a shade less of extractive matters, but it is very rich in those compound ethers, upon which the fragrance of wine depends. There is but little sugar in it—a point in its composition which will recommend it to the favour of the gouty and the dyspeptic. The really remarkable thing in connexion with this wine is the low price asked for it. It appears that there are only two qualities of it in the market, and that they are sold at 25s. and 30s. per dozen respectively. Champagne at 36s. per dozen is simply undrinkable, and even up to 48s. it leaves a most unpleasant after-taste—something like that caused by iron preparations—upon the palate and fauces. Sparkling Saumur, even of the lower quality, leaves no such disagreeable after-taste, whilst in bouquet and flavour it equals, we shall not say the *best*, but certainly the better qualities of Champagne and Moselle. Indeed, so far as our individual taste is concerned, we prefer the sparkling Saumur to even the best qualities of Moselle, which, to our thinking, are somewhat too sweet. Need we add that a sparkling wine, pure, of good flavour, of agreeable odour, and to be got at the price of the cheapest sherry, is just the article required in our public institutions? We do not, of course, mean to imply that sparkling Saumur is a wine suitable for sick people alone—it is, on the contrary, one admirably adapted for general use; but we strongly recommend it to the notice of those who, in their ministrations to the wants of the sick poor, may desire to use a wholesome and pure sparkling wine, procurable at a moderate cost. We believe that there are already in the market imitations of Messrs. Gilbey's importations from Saumur, so we would caution our readers to be careful should they be disposed, on our recommendation, to make an adventure in sparkling Saumur, to be sure that they get it from the right quarter, and by its correct trade term, "Castle Saumur."

THE SALE OF FOOD AND DRUGS ACT, 1875.

The Sale of Food and Drugs Act (38 & 39 Vic., c. 63), which came into operation on the 1st of October, 1875, repeals all the preceding Parliamentary enactments relating to the adulteration of

food and drugs, excepting the appointments of officers made under their provisions. This Act is, in some respects, an improvement upon its predecessors; in other respects it is retrogressive. As the present Act enables Medical Officers of Health to act as Inspectors of Food, we shall give, for their information, a brief account of it, together with some hints as to the proper carrying out of its provisions. The Act enables County Grand Juries and the Town Councils of Boroughs to appoint analysts; or, in the case of Boroughs, to allow the analysts already appointed for other districts to act for theirs. In districts where there are no analysts, any person may, by special agreement, get the analyst of any neighbouring county or borough to analyse food or drugs for him. This is a useful new feature; for, under the former Acts, an analysis of food, &c., made for any one in a district unprovided with a public analyst, should, in the case of a prosecution, be proved upon oath by the analyst. In future, in such cases, the analyst's certificate is admissible instead of his parole evidence.

Any Medical Officer of Health, Inspector of Nuisances, Inspector of Weights and Measures, or Inspectors of Markets, or Police Constable, acting under the direction and at the cost of the local authorities appointing such officers, or intrusted with the execution of the Act, may procure samples of food and drugs and submit them to the analyst for examination. The Act states that the latter may, for each analysis, charge a fee not exceeding 10s. 6d., and that on receiving said fee, he shall proceed to make the analysis. In districts, therefore, where there is a paid analyst, it is advisable to tender him even a nominal fee—say 6d.—whenever the Food Inspector requires his services; for, in cases of food adulteration before petty sessions and police courts, the advocates for the accused raise every little point, legal or otherwise, to baffle the prosecutor. The question is, who are to employ and pay the Food Inspectors? Those who alone can act in that capacity are Medical Officers of Health and Inspectors of Nuisances, who are appointed by the Urban and Rural Sanitary Authorities; the Inspectors of Weights and Measures, who, with very few exceptions, are the constabulary, and—in the suburbs of Dublin—the Metropolitan Police. As for Inspectors of Markets, there are, outside the large cities, few, if any. The Grand Juries and the Town Councils are clearly to pay the Public Analysts; but who are the “local authorities” who are to pay the Inspectors? We have studied the section (13) of the Act relating to this point, and

although the wording of it is extremely obscure, we think that it will bear the following construction:—

The “Local Authorities” mean the Boards of Guardians and Urban Sanitary Authorities, who certainly, as a matter of fact, appoint Health Officers and Inspectors of Nuisances; and the Grand Juries and Town Councils, who are “charged with the execution of this Act.” Section 29 provides that Grand Juries may, without a previous application to Presentment Sessions, present to be raised off and paid by the counties any sums previously incurred in executing the Act; and the Treasurer may pay such expenses out of the County Cess. It is to be feared that the Grand Juries will not pay Inspectors, who, therefore, must be the officers of the Sanitary Authorities. If these officers prosecute in cases where adulterated food or drugs have been sold to them, the penalties imposed upon the adulterators, if convicted, are to be handed over to the prosecutor, to be by him paid over “to the authority for whom he acts, and be applied towards the expenses of executing the Act.” We think, that in such cases the Inspector should pay over the penalties, not to the Sanitary Authority, but to the Grand Jury or Town Council, as the case might be. Under the former Acts relating to adulteration, the magistrates who convicted were empowered to give reasonable costs; and they frequently awarded from £10 to £20 and costs. There is no reference to costs in the present Act, and, therefore, we fear that no costs amounting to even a pound can be given, as costs must be regulated according to the provisions of “The Petty Sessions (Ireland) Act, 1851.” This is a serious omission in The Sale of Food and Drug Acts, which will be the more seriously felt in those cases where the prosecutors are private persons; for in such cases the penalties are to be applied as directed in The Fines Act (Ireland), 1851, *i.e.*, will go into the public treasury. It seems to us that the Sanitary Authorities, in counties at least, are the proper persons to carry out the Act, as they meet frequently and have a staff of Health Officers; whereas the Grand Juries meet only twice a year, and have not the opportunity of supervising the Inspectors, directing prosecutions to be undertaken, &c. The latter bodies have, however, full powers to pay the Sanitary Authorities the costs incurred by the latter in executing the Act. It would be a useful precaution for the Grand Juries to appoint all the Medical Officers of Health and Inspectors of Nuisances (now called Sanitary Sub-Officers), to be Inspectors under the Act, and to furnish an attested copy of

such resolution to the Executive Sanitary Officer of each of the Sanitary Authorities. This would surmount any legal difficulties as to the powers of the Inspectors which ingenious counsel might suggest in cases of prosecution.

We shall now describe how articles of food, drink, and drugs, are to be collected for analysis. Any Officer of Health, &c., may purchase any article of food, &c., and, on completing the sale, must state that he intends to have it analysed; and he must propose to the vendor or his agent to divide the article into three parts—one to be given to the seller, one to be sent to the analyst, the third to be retained by the purchaser—and all to be sealed up or otherwise secured according to the nature of the article. If the vendor declines to receive a portion of the article, the whole of it may be submitted to the analyst, who shall analyse it, and return a certificate stating whether or not it is adulterated, and also return, sealed up, a portion of the article. If the analyst resides at a greater distance than two miles from the place where the purchase has been made, the sample may be sent to him by registered letter.* In the case of workhouses and their hospitals, either the Medical Officer of Health or the Inspector of Nuisances, intending to test the quality of the food, &c., supplied to such institution, should proceed as follows:—He should direct the person who receives the food—say milk—to “purchase or procure” a portion of the article for him. When the purchase is effected (and no reference need be at first made to the officer), the Inspector should appear, take the sample, and proceed as already directed. The following quantities are required for an analysis:—Milk 1 oz., butter 4 oz., tea 2 oz., coffee 2 oz., mustard 1 oz., pepper 1 oz.; wine, whiskey, rum, gin, brandy, ale, and porter 8 oz.; flour 8 oz., bread 1 lb.

Under the new Act Inspectors can compulsorily buy articles of

* Regulations issued by the Postmaster-General for the transmission by Post of samples for analysis—1. Each packet must be addressed according to the official designation of the analyst, as “Public Analyst,” or otherwise, and the nature of its contents must be stated on the front of the packet. 2. Any postmaster at whose office a packet for a public analyst shall be tendered for registration, may refuse to accept it for this purpose unless it be packed in so secure a manner as to render it at least unlikely that its contents will escape, and injure the correspondence. 3. Liquids for analysis shall be contained in stout bottles or bladders, which shall be enclosed in strong wooden boxes with rounded edges—the boxes being covered by stout wrappers of paper or cloth; and no such package shall exceed 8 inches in length, 4 inches in width, or 3 inches in depth. 4. No packet whatever addressed to a public analyst shall exceed the dimensions of 18 inches in length, 9 inches in width, or 6 inches in depth. 5. The postage and registration fee on each packet must of course be prepaid.

food, &c., for analysis, and the penalty for refusing to sell is £10. Quite lately a simultaneous raid was made by eighteen of the Sanitary Officers of the Corporation of Dublin upon the milk carts. Nearly 80 samples of milk were procured from the carts, of which 18 were adulterated, and 9 were of doubtful quality.

In future, articles can be sent to the analyst by post, and his certificate is receivable in evidence, but the accused may demand his production in court, though we can nowhere in the Act find any provision for the payment of the analyst for his attendance, even when the accused is convicted. If a private person prosecutes a milk-vendor for selling him adulterated milk, the vendor may insist on the production of the analyst, who, of course, must be paid by the prosecutor, who gets no part of any penalty that may be imposed, and who cannot be awarded even £1 in costs.

The defendant and his wife (if he have one) can, in future, be examined as witnesses, if they wish so to elect. Should he deny the charge, and give evidence in support of his assertion, the justices hearing the case may, at the request of either side, cause the sample, which the prosecutor must produce in court, to be analysed by the chemists of the Inland Revenue Commissioners, Somerset House, London, at the expense of complainant or defendant, as the justice may direct.*

Any person convicted of the sale of a drug adulterated with any material affecting its potency, or of food adulterated with any substance injurious to health, is liable to a fine of £50, and on a second conviction to imprisonment for six months with hard labour; but for the sale of such an article no one shall be convicted if they prove to the satisfaction of the justices that they were necessarily ignorant of its nature. No person shall sell any article of food which is not of the character and quality demanded

* Regulations to be observed in transmitting articles for analysis to the Commissioners of Inland Revenue:—1. The sample retained by the purchaser, as stated in sections 14 and 15 of the Act, should be carefully sealed up and secured either in paper or in a box, as the case may be. 2. The seal used should bear a motto or device not in common use, to enable its identity to be sworn to. 3. If sent through the post, the instructions issued by the Postmaster-General for the transmission of such samples should be carefully carried out, and the parcel should be addressed to

The Commissioners of Inland Revenue,
Inland Revenue Office,
Somerset House,

London, W.C.

The Principal of
The Laboratory.

by the purchaser under a penalty of £20, unless under the following circumstances:—

“Where any matter or ingredient not injurious to health has been added to the food or drug because the same is required for the production or preparation thereof as an article of commerce, in a state fit for carriage or consumption, and not fraudulently to increase the bulk, weight, or measure of the food or drug, or conceal the inferior quality thereof;

“Where the drug or food is a proprietary medicine or is the subject of a patent in force, and is supplied in the state required by the specification of the patent;

“Where the food or drug is compounded as in this Act mentioned;

“Where the food or drug is unavoidably mixed with some extraneous matter in the process of collection or preparation.

“No person shall sell any compound article of food or compounded drug which is not composed of ingredients in accordance with the demand of the purchaser, under a penalty not exceeding twenty pounds.

“Provided that no person shall be guilty of any such offence as aforesaid in respect of the sale of an article of food or a drug mixed with any matter or ingredient not injurious to health, and not intended fraudulently to increase its bulk, weight, or measure, or conceal its inferior quality, if at the time of delivering such article or drug he shall supply to the person receiving the same a notice, by a label distinctly and legibly written or printed on or with the article or drug, to the effect that the same is mixed.

“No person shall, with the intent that the same may be sold in its altered state without notice, abstract from an article of food any part of it so as to affect injuriously its quality, substance, or nature, and no person shall sell any article so altered without making disclosure of the alteration, under a penalty in each case not exceeding twenty pounds.”

HOW TYPHOID IS SPREAD.

In former reports we have drawn largely upon the valuable stores of information to be found in the blue books issued from the medical department of the (English) Privy Council. For some time the publication of appendices to these reports had been suspended, to the great loss of pathological and hygienic inquirers, but we are now glad to find that Mr. Simon has been enabled to resume this good work. These volumes are not mere statistical accounts of, for example, the number of vaccinations performed in Great Britain, of sanitary inspections made by the officers of the Local Government Board, &c., but are chiefly composed of

masterly dissertations and original papers upon some of the most difficult problems relating to public health. Four volumes have appeared this year from Mr. Simon's department. The first is little more than a pamphlet, and its contents nearly altogether of a formal character; but the second volume comprised 236 pages, together with 77 pages of engravings. The most remarkable feature of this volume is that six out of the seven appendices in it refer exclusively to enteric fever, whilst the seventh treats of a subject which is intimately connected with the spreading of that disease—namely, the disposal of house refuse. Dr. Buchanan gives us an account of an outbreak of typhoid fever which occurred in Caius College, Cambridge, during the latter part of 1874. It appears that of the 163 students of this college 112 were residents, whilst 51 slept in lodgings in the town. Amongst the residents there were 15 cases of typhoid fever; amongst the non-resident students no case occurred. It is evident, then, that the cause which produced the disease did not operate equally upon the two classes of students,—at least the chances that it did not were in the proportion of 375 to 1. The residents were not equally affected either, for out of 62 students located in a particular part of the College—Free Court—12 were smitten with the disease. The remaining 50 students inhabited four other parts of the College, and amongst them there were only 3 cases of the disease. The sanitary conditions of the College seemed excellent. There was ample ventilation, the sewers were well constructed, and there was no doubt as to the purity of the water supplied to the College, which also was the pipe-water of the whole town. The milk was, of course, suspected, but it was found that the non-resident students and the persons in those parts of the College where there was no fever used the milk as well as those who inhabited Free Court. It was clear, therefore, the milk was not the vehicle of the contagium. After a careful study of the sanitary arrangements of the College, Dr. Buchanan arrived at the conclusion that the outbreak of fever was caused by pollution of the water-service pipe by sewer gases from water-closets. It appears that occasionally the water-pipes were noticed to contain air—a sure sign that the pressure of the water had previously been diminished, and that, perhaps, the pipes had been nearly emptied of their aqueous contents. If, under such circumstances, water were let down from a service-pipe into the pan of a water-closet, it is very likely that the air contained in the space beneath

the pan would rush up into the partly empty pipe. In the case of the Free Court water-closets this was, according to Dr. Buchanan, the case, and it accounted for the outbreak of typhoid fever in that part of the College. The water-closets in the other parts of the College were carefully examined, but from what Dr. Buchanan learned in relation to them, he came to the conclusion that they were not, at the time of the outbreak, placed under the same conditions as those affecting the water-closets in Free Court.

It is by no means an uncommon circumstance to allow the same water-cistern to furnish a pipe to the water-closet and a pipe to the tap for general use. If the space below the pan of the closet be unventilated, we can readily understand that the air, on it being subjected to pressure by the falling water, may force its way through the tube which allows the latter to descend, and pass into the water in the cistern. Several cases of this kind have come under our observation, and have in at least two instances spread typhoid fever. If, as in the case of Caius College, gases from a water-closet could force their way into the interior of a water-main, it is far more likely that they could ascend through a perpendicular pipe into an open cistern. It is clearly the duty of the sanitary authorities, and, indeed, of the corporations or companies who supply pipe-water, to see that each water-closet is provided with a special cistern.

Doctor Ballard describes a serious outbreak of enteric fever in Sherborne, Dorsetshire, a town of 6,041 inhabitants. From December, 1872, to May 10th, 1873, there were 243 cases of typhoid in this small population. Dr. Ballard came to the conclusion that the greater proportion of the cases arose from contamination of the water-mains by sewer gases getting into them from the pans of water-closets. Of course, if there were always a full supply of high-pressure water in the mains of towns, there would not be much danger of sewer gases getting into them; but in many towns the water-supply is intermittent, which means that the pipes are sometimes full of water, sometimes full of air. In Dublin there is always good pressure in the water-mains, but in some of the suburbs, especially Kingstown and Dalkey, the pressure of the Vartry water in the mains is sometimes very low. We have often been asked to account for the fact that the Vartry water occasionally issues from the taps in an effervescent state, foaming, and as white as snow. When that condition of the water is observed it is always after the partial emptying of the pipes, and the replace-

ment of water therein by air. When the full pressure of water is applied the air in the pipes is condensed, and when the taps are opened the water, commingled with air, rushes out in a state of high commotion. Sometimes, no doubt, the entangled air may have got into the pipes from the water-closet. Dr. Ballard traces the cause of an outbreak of enteric fever in Leeds to the use, on the part of the affected, of milk from a particular dairy. This milk, on inquiry, was found to have been adulterated with water, and the water to have been contaminated with the dejections of a person affected with enteric fever. It is bad enough to be obliged to use an adulterated article, but when the adulterating material is pregnant with the seeds of disease, what penalty could be too great to impose upon the adulterator? An extensive outbreak of typhoid in Marylebone, London, in 1873, was carefully inquired into by Mr. J. Netten Radcliffe and Mr. W. H. Power, and the cause of it referred to the use of polluted milk. The cases numbered 244. On looking through the summaries of the 143 reports of inspectors made during the years 1870-71, '72, and '73, we find that, with about a dozen exceptions, the outbreaks of enteric fever throughout England and Wales are attributed either altogether, or to some extent, to the use of polluted water. In Ireland, no doubt, typhoid is often propagated in a similar manner. We have recently examined water from Blessington, sent by Dr. M. Given; from Kells, sent by Dr. Halton (whose admirable lectures on sanitary science are familiar to our readers); and from many other medical officers of health, who suspected that local outbreaks of enteric fever were caused by polluted water—an opinion which the highly polluted state of the water (as shown by analysis) fully confirmed. The frightfully impure state of the well-waters used in Tralee has recently been forcibly pointed out by Dr. Falvey, the excellent Consulting Sanitary Officer of that town, and we trust that his suggestions for improving the quality of the water-supply of so important a town may be attended to by the Town Commissioners. Waterford, which has the worst supply of water in Ireland, is at last, we see, seriously setting about obtaining pure water from a source remote from the city. Most of the towns in Ireland are very badly off, both with respect to the quality and the quantity of their water-supplies.

In the sixth (and concluding) Report of the Rivers' Pollution Commission, published last October, the following general conclusions are arrived at:—(1) That rain-water collected at a distance

from towns, and upon surfaces specially prepared for the purpose and kept in clean receptacles, contains the smallest amount of solid matters or impurities. (2) That rain-water collected from roofs and kept in underground tanks is often very impure and unfit for use. (3) That water obtained from uncultivated land, and filtered through sand or gravel, is generally very good. (4) That the drainage water from cultivated land is, in general, very much polluted. (5) That when surface drainage from cultivated land is used as a water supply, it should be properly filtered. (6) That a large proportion of British rivers are so polluted with town and factory refuse, &c., as to be incapable of supplying water fit for domestic purposes. (7) That shallow well-waters are usually bright, sparkling, and well-flavoured, but notwithstanding these agreeable qualities, they are, as a rule, highly contaminated with dangerous organic matters. (8) That spring and deep-well waters are the best for use. The reporters believe that no available process will thoroughly remove organic impurities from polluted water—an opinion with which we fully coincide.

LONGEVITY OF FLAX-MILL WORKERS.

In 1870 the number of operatives in the flax mills of Great Britain—placed under the operation of the Factory Acts—amounted to 100,037, of whom nearly one half were employed in Irish factories. Dr. C. D. Purdon, Certifying Surgeon for Belfast district, read a paper on the longevity of the flax-mill workers under his supervision at a meeting of the Association of Certifying Medical Officers, held last August at Edinburgh. In the following Table he gives the number of adults employed in each department of the linen industry, the average age of the oldest person in each mill, the average length of time the operatives labour, the age of the oldest worker in each department, and the longest time any have been therein employed.

An examination of this Table shows how short is the duration of life amongst linen-factory workers. Including machine boys and some other classes of operatives not referred to in this Table (but who number 4,867), the skilled operatives in the flax mills of Belfast and the adjacent districts amount to 25,759. Out of this large number only 5, it would appear, have attained to the age of 70 and upwards. Amongst the poor, "retiring from business," except to the workhouse, is a thing unknown; artisans and labourers usually, like medical men, die in harness. It is clear,

therefore, that flax-mill operatives do not attain to a ripe old age, only about 1 in 5,000 realises the allotted span of human life—three score years and ten.

TABLE.

	Number of hands employed	Average age of oldest worker	Average number of years employed as such in each department	Age of the oldest worker	Length of time the oldest has been employed in the department	Longest time any employed	Average age in Town Mills and Factories	Average length of time employed	Average age in Country Mills & Factories	Average length of time employed
Roughers -	834	46.2	28.3	68	49	49	46.4	29.1	46.1	27.5
Sorters -	1,247	54.15	37.7	70	50	50	52.7	35.5	56.4	39.9
Carders -	246	45.7	16.8	64	25	36	44.9	18.6	46.5	15.0
Preparing -	2,987	52.9	28.7	71	22	40	48.4	29.2	57.4	28.2
Spinners -	4,485	46.9	31.1	57	35	41	44.8	28.4	49.1	33.9
Winders ^a -	2,461	55.4	17.4	77	15	36	45.3	19.9	65.6	15.0
Weavers -	5,518	48.1	20.1	70	55	55	46.2	22.0	50.0	18.3
Warpers -	197	38.4	14.6	60	40	40	40.2	17.6	36.6	11.6
Dressers -	138	48.4	16.6	60	11	30	45.8	17.0	51.10	16.0
Reelers -	2,779	54.0	32.8	70	33	44	52.6	30.3	55.5	35.3

The carders appear to be an unusually unhealthy class, for if a girl gets a card at 18 years, her mean expectation of life, after that event, is only 12 years. This, truly, is a frightful state of things, and one which demands an immediate and serious consideration with a view to its prevention or, at least, its mitigation. Dr. Purdon states that one of the causes which effect the high mortality of the carders is their frequent use of stimulants, taken, no doubt, as a (delusive) solace for the misery of their lives. We are not aware that, in the case of any other class of workers, the mean expectancy of human life at 18 years is so low as amongst the carders; but we venture to think that it is not quite so low in their case as it is stated to be. We presume that Dr. Purdon, perhaps, bases his conclusion upon the following factors:—1st. The number of persons employed as carders; 2nd. Their average age, above 18 years. It must, however, be borne in mind that the

^a A great many that are affected with pulmonary complaints select this department.

carders of 18 years old and upwards get married—some of them at least—and that one of the results of matrimony may be their total abandonment of mill-working.

Dr. Purdon states that the average duration of the carder's life is 45·7 years. According to Dr. Farr, the mean life of females in a healthy district (England) is 49·45 years, so that the difference between the length of a carder's life and that of a woman living under healthy conditions is nearly 4 years. According to Farr, a woman at 20 years old has a mean expectation of 43 years further life; whilst, according to Dr. Purdon, a carder, aged 18, is only likely to live 12 years longer. The eminent vital statistician, Mr. Radcliffe, states that mill operatives, 20 years old, live, on the average, till they become 58·09 years old. *Apropos* of these statistics, is it not a startling fact that the mean expectation of life is much greater at 5 years old than at 1 year old?

Dr. Purdon attributes the high mortality amongst flax-mill operatives partly to the want of proper ventilation in the work-rooms, and to their high temperature. These defects admit of being easily remedied. Dr. Purdon suggests that carding should be performed by male workers alone. He is opposed to children under 10 years old being allowed to work even as "half-timers," "and in place of changing the sets every fortnight, that the strong and well-developed, who are about 12 years old, be always kept in the morning set, and before being so placed that they should be re-certified by the surgeon to be fit for such employment; that no half-timers be employed in the unhealthy processes, and that those who are so employed should be at least 15 years of age, healthy and well-developed; a thorough system of ventilation should be carried out in these rooms; the wearing of the 'Baker Respirator' made compulsory; a quarterly inspection of the mill by the Certifying Surgeon, who should see the effect the work has on the constitution of those engaged, and if suffering from incipient disease they should be obliged to cease working; also, there should be an examination on every fresh engagement; the lodging-houses, &c., should be inspected regularly, and not more than a certain number allowed to inhabit each room." Under the provisions of the Sanitary Act of 1866, the Local Authorities have ample powers to prevent over-crowding in lodging houses.

THE LATE SMALL-POX EPIDEMIC.

In the fourth of the new issues of Mr. Simon's Reports we have an admirable statistical account of the recent epidemic of small-pox in the United Kingdom. The disease first appeared in an epidemic form towards the close of 1870, and it was not until about the middle of 1873 that the number of cases of this loathsome malady declined to the average of the years immediately preceding the outbreak. The disease became virulent in France in 1869, and raged during 1870, probably as the result of the impaired state of public health, induced by the terrific war which then raged in that country. From France the disease spread into England, Germany, Holland, Denmark, Russia, and even to such remote places as Iceland, the Gold Coast, and the West Indies.

The occurrence of the epidemic in England had been anticipated by the medical department of the Privy Council, and the officers of that department did their utmost to stimulate the local authorities to vigorously carry into effect the laws relating to vaccination, for many of them had neglected to do so. The disease at once assumed a virulent form, the mortality from its attacks increasing from 10 to 40 per cent., as compared with the ordinary mortality from small-pox. The mining districts of the North of England and some parts of South Wales suffered severely, but the disease was comparatively lightly felt in the south-eastern and south-midland counties. This is rather remarkable, as those districts are close to the metropolis, where the epidemic raged fiercely for a long time.

The epidemic broke out in Ireland towards the end of 1871, and was most severely felt in Dublin, Belfast, and Cork. In the last-named city the mortality from small-pox amounted to the enormous rate of 9·6 per 1,000 of the population—a higher ratio of deaths from the disease to the population than we find recorded for any other town in the United Kingdom. In the years 1871 and 1872, 42,220 persons died from small-pox, and of these 5,817 were under the age of one year. In some Continental States the disease appears to have carried off much larger proportions of the population than in Great Britain. In Holland, where vital statistics are most carefully collected, the mortality in 1871 reached the high ratio of 4·3 per 1,000 of the whole population of the kingdom. In England the mortality from the disease in 1871 was not one-fourth of that in Holland. In Hamburg, in 1871, the mortality was 1·076 *per cent.* of the population, or ten times that of England.

Considering the great density of the population of Great Britain, and the large number of its towns, the mortality from the recent small-pox epidemic appears small when compared with the ravages of the disease in other countries.

Very careful consideration has been bestowed by the author of this Report upon the subject of vaccination in connexion with the recent epidemic; and the conclusion is arrived at that vaccination and re-vaccination contributed greatly to lessen the number of attacks and to moderate the virulence of the disease.

In a former Report in this Journal we collected a large number of statistics which clearly proved the prophylactic virtues of vaccination, but, indeed, further proofs in reference to this matter are hardly called for.

PART IV.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE COLLEGE OF PHYSICIANS.

SAMUEL GORDON, M.B., President.

GEORGE F. DUFFEY, M.D., Honorary Secretary.

Wednesday, December 8, 1875.

The PRESIDENT in the Chair.

On Some Cases of Continued Fever of Unusually Long Duration. By
JAMES LITTLE, M.D., Professor of the Practice of Medicine in the
School of the College of Surgeons.

I PROPOSE to read the epitomised records of four cases in which for more than forty days pyrexia existed, although as far as I could make out it was not symptomatic of any local inflammation, or due to any of the acknowledged types of essential fever. I have seen three other cases very similar in character, but I think those I wish now to bring before the Society will suffice to elicit the opinions of other members who have, no doubt, met with similar cases, and have, perhaps, attained to a more precise knowledge of the nature of the illness than I have been able to acquire.

On November 11th, 1870, Mr. S., aged thirty-three, the manager of a shop in Rathmines, was admitted to one of the pay wards in the Adelaide Hospital. Illness had been coming on gradually for a week before admission, the symptoms being—weakness, chilliness, and loss of appetite.

On December 6th, when he had been more than thirty days ill, and for the greater part of that time in the hospital, the record in the case-book is that since admission he has lain in bed, appearing dull and saying he could hardly get up, but unable to tell of any definite feeling of illness.

His nights, except when he had chloral, have been restless, and one night he had slight wandering.

The tongue has been furred; he has been thirsty, and has taken abundant liquid nourishment; his bowels have been confined, and he has always felt better after he was purged by a dose of calomel and an oil draught. A physical examination of the abdomen failed to discover anything abnormal, except that the area of splenic dulness was somewhat increased. The pulse was usually about 100, and dicrotous. The urine always loaded.

The thermometric observations have not been regularly copied into the case-book, but I find that on December 10th the morning temperature was 103.4° , and the evening 102.4° ; and on December 17th the morning temperature was 101.4° , and the evening 102.4° .

As at first I believed the case to be one of slowly-progressing enteric fever, careful search was made for an eruption, but except a few spots on the abdomen, which had rather the character of pale, languid acne spots than any likeness to those found in enteric fever, no eruption presented itself.

The supposition that the case was indeed one of enteric fever received considerable confirmation from the fact that during a period of ten or twelve days between the thirtieth and fortieth days of his illness he had cough which brought up some viscid, muco-purulent expectoration, occasionally tinged with blood, while cooing râles were heard over the chest on deep breathing, and that the tongue was for some days dry, glazed, and slightly fissured.

On January 6th, after a residence of sixty-six days in the hospital, he was moved to a friend's house at Dalkey. At this time he had lost flesh considerably, and was very weak, dull, and listless. After staying, I think, about a fortnight at Dalkey without much, if any, improvement, he was brought to lodgings in Ranelagh, where I was asked to visit him in consequence of a violent looseness of the bowels. This continued for some days, and I made no attempt to check it. The stools were liquid, pale, and barm-like, and most offensive; and after this his strength speedily returned.

On June 16th, 1873, I was asked to visit a lady about thirty years of age, who was under the care of Dr. Evans. She had taken ill ten days previously; her illness commenced abruptly with nausea and vomiting, and seemed due to working for some hours in a close greenhouse during a hot day. The following record of this lady's morning and evening temperature from the seventh to the twenty-fifth day I am, through Dr. Evans's kindness, able to lay on the table:—

Day of Illness.	Morning Temp. °	Pulse.	Evening Temp. °	Pulse.
7	—	120	105·4	120
8	—	120	—	120
9	102·5	120	104·6	116
10	104	120	106·7	126
11	101	116	104	120
12	100	120	104	126
13	102·2	126	103·8	130
14	101·2	120	103·2	126
15	101	120	103·5	120
16	101·2	114	103·5	120
17	102·4	116	103·4	120
18	101·2	120	103	120
19	102	120	102	120
20	101·3	120	102·2	120
21	101·7	116	102	120
22	100·3	102	101·7	120
23	99	96	101·2	102
24	98	96	102·2	102
25	97·7	84	100	96

After the twenty-fifth day the temperature was not regularly taken, but Dr. Evans informed me that during the evenings it continued decidedly above normal until the forty-sixth day. The most marked symptoms were a wish to be let alone and thirst. The bowels were disposed to be confined throughout, but it was carefully ascertained that there was no fæcal lodgment. In this case no pulmonary congestion was at any time present. About the forty-sixth day pyrexia ceased, but it was some weeks before strength and appetite returned. I saw her several times during the second and third weeks of her illness, and examined her carefully, but neither Dr. Evans nor I was able to discover any symptom or physical sign which suggested the existence of local mischief in any part of the body.

On May 5th, in the present year, Jane Benson, aged fifteen, was admitted to hospital, under my care. She had suffered for more than a year from enlarged glands in the neck. Her present illness had begun very gradually; for a month she had complained of slight pain about her right shoulder. Ten days before admission, at which date she became distinctly ill, the pain in the shoulder became worse, and she had pains in her limbs and back. This girl's temperature was as follows:—

	Day of Illness.	M. T.	M. P.	M. R.	E. T.	E. P.	E. R.
	16	—	—	—	102·5	104	45
	17	—	—	—	104·8	108	—
	18	—	—	—	104·2	100	—
	19	100	88	—	104·8	108	—
	20	102·3	104	—	—	—	—
	21	103·5	108	26	104·6	100	40
	22	101·4	94	24	102	104	22
Quinine, 5 gra. thrice daily.	23	102·8	108	28	102	100	28
	24	101·8	—	—	100·1	82	28
	25	100	90	27	100·8	82	30
	26	100·8	88	28	101·5	88	30
	27	101·4	88	28	101	88	26
	28	99	84	28	101·4	110	28
	29	100·4	88	24	101·8	88	27
	30	99·8	84	24	—	—	—

The temperature continued above normal until the thirtieth day, and even after that was occasionally higher than 99° in the evenings; but independent of this, there was sufficient evidence that she was seriously ill. She lay in bed in an apathetic state, taking no notice of anything about her, and apparently very depressed in spirits. She was sleepy by day, and wakeful by night, and for some time so weak that it was necessary to use the bed pan.

The tongue was covered with an adherent fur; her breath was foul, and her bowels disposed to be confined.

During the third week of illness she had cough, which during the fourth was considerable, but no physical signs were discovered in the chest.

During the illness the glands in the neck became more enlarged, and were somewhat painful. Though she was not well enough to leave the hospital until the 24th of July, a period of eleven weeks from her admission, marked elevation of temperature did not, as I have mentioned, continue beyond the thirtieth day.

On May 27th, in this year, Jane Melbourne, aged seventeen, was admitted. A week before admission she had got a wetting, and the following day her illness began with shiverings and headache. As will be seen by the following record of this girl's temperature, it continued above normal for fifty days. For the greater part of that time she lay in a listless, apathetic state, taking no notice of any one, and complaining only of weakness. She did not sensibly lose flesh:—

	Day of Illness.	M. T. °	M. P.	M. R.	E. T. °	E. P.	E. R.
	13	—	—	—	104·4	108	28
	14	—	—	—	104·2	108	40
	15	101	90	26	—	—	—
	16	—	—	—	—	—	—
	17	—	—	—	102	108	32
	18	100·8	100	32	103·4	108	34
	19	100·6	100	26	103	104	30
	20	—	—	—	102·2	100	32
	21	102	100	32	102·4	120	32
Quinine, 5 gra. thrice daily.	26	—	—	—	102·8	104	32
	27	99	—	28	103	—	—
	28	—	—	—	104	94	32
	29	100·4	—	—	102·6	90	28
	30	99	88	28	—	—	—
	31	99·6	92	28	102	96	28
	32	99·2	84	24	102·4	—	—
	33	99·4	—	—	103·2	—	—
	34	99·8	—	—	101·8	—	—
	35	102·4	—	—	105	—	—
	36	102·4	—	—	102·2	—	—
	37	101	—	—	99	—	—
	38	100·2	—	—	101·8	—	—
	39	—	—	—	100·6	—	—
	40	102·4	—	—	103	—	—
	41	101·6	—	—	102·6	—	—
	42	101·3	—	—	103·8	—	—
	43	100·2	—	—	98·4	—	—
	44	100	—	—	101·4	—	—
	45	98·8	—	—	102·8	—	—
	46	100·2	—	—	102·2	—	—
	47	100	—	—	102·8	—	—
	48	98·6	—	—	102·6	—	—
	49	98	—	—	99·6	—	—
	50	98	—	—	101·6	—	—
	51	98·4	—	—	99·8	—	—
	52	98	—	—	100·2	—	—
	53	98·4	—	—	100	—	—
	54	97·6	—	—	—	—	—

These last two cases were for a considerable portion of their stay in hospital under the care of my friend, Dr. Walter Smith, who kindly took charge of them, and kept the notes of their cases after I left town in July.

During the past five years I have attended three other patients, all young men, who presented symptoms resembling those I have narrated—that is, they were obliged to keep their beds for three to four weeks, during which time the temperature of their bodies was higher and the pulse more frequent than in health. They were all depressed and apathetic, and very weak, but presented no symptom or physical sign which justified a precise diagnosis.

Possibly I have no right to group these cases together; the only points they have in common are the presence of pyrexia, the peculiar mental state which was present in them all, and the absence of any symptom or sign which, to my mind, justified me in classing them under any of the essential fevers, or attributing the symptoms to any local inflammatory action. Their interest lay in the fact that during their progress I felt in the dark as to their true character, and, of course, uneasy as to the ultimate result. That no local mischief was discovered may have been due to feeble diagnostic power on my part, but the ultimate recovery without the development of chronic thoracic or abdominal disease, is strongly in favour of the supposition that none existed during the pyrexial period.

All the persons in whom I have observed this state appeared to me to be of the lymphatic diathesis, and the pyrexial condition, I think, is associated with some general irritation and overgrowth in the lymphatic glands.

DR. GRIMSHAW thought that the cases Dr. Little had related were all cases of enteric fever. He (Dr. Grimshaw) had had an opportunity of making *post mortem* examinations in two cases having very much the same history as those that Dr. Little had detailed. The symptoms in these were not well marked during life; but they were aware that cases of enteric fever might each be wanting in individual symptoms, and have only the feature of febrile excitement in common. The temperatures Dr. Little had given showed the range peculiar to enteric fever. With respect to the two cases he (Dr. Grimshaw) had examined after death, there was no doubt about their being cases of enteric fever. In one of them, during life, the symptoms were very badly marked. The patient had not diarrhoea or any marked tenderness on pressure; the spots also were absent, and he died in a sort of atrophic condition, such as had been described by Dr. Clifford Allbutt in cases of marasmus. After death the remains of ulcers in the intestines could be traced, though most of them were healed up. The cause of the maintenance of the fever appeared to be the inflammation of the mesenteric glands, of which a great number were enlarged and inflamed, owing to the poisoning effect of the ulcerated intestines. The other patient died after an illness of a month or five weeks. In that case there were no spots; little or no

complaint on pressure of the abdomen, and a tendency to confinement of the bowels. The *post mortem* examination showed ulcers, some of which were in process of healing, with enlarged mesenteric glands. The patients in both instances were of a lymphatic temperament; and he believed that, owing to inflammation of the lymphatic glands, the secondary fever continued for a considerable time after. The true explanation of those cases he believed to be that a comparatively slight attack of enteric fever proved sufficient to set up a lymphatic glandular inflammation, which produced a fever of the sub-typical character described by Dr. Little. His note-books would furnish many cases of this sort, and he had put them all down as cases of enteric fever. He had always been accustomed to look on them as rather serious, and if the patient had chronic lung disease, they were very likely to terminate in some form of phthisis.

The PRESIDENT said that within the last few months he had seen several cases bordering somewhat on those described by Dr. Little. Lately he had seen two particularly well-marked cases of enteric fever, in which the nervous symptoms predominated. He detailed the leading features in these cases, and said that they had at present in the Hardwicke Hospital much more fever than he had seen there for a considerable time, and the majority were more or less of a nondescript character. He considered them to be all cases of typhoid, although for a considerable time, at all events, there had been little, if any, diarrhœa in them, and in very few cases rose-coloured spots.

DR. DOYLE asked Dr. Little had cases of typhus fever of a bad type occurred in the vicinity of any of the cases which he had described? In the *Medical Times and Gazette* of February, 1874, a translation was given of some cases described by Professor Jürgensen, of Tübingen, under the term of continued fever, and he accounted for them by supposing that the patients had received the secretions of typhus fever, and had become affected with a fever of a modified type.

DR. GEORGE F. DUFFEY (Hon. Sec.) remarked that the observations of Dr. Little and Dr. Grimshaw reminded him of a form of fever prevalent in Malta while he was quartered there. During the five years he was in the Island he saw a large number of cases of an anomalous form of fever, commonly called "Maltese fever" which were entered in the official returns under the head of Common Continued Fever, but which he believed to be enteric fever. The type of this fever was essentially what Dr. Little had described. The spots were generally absent, there was seldom diarrhœa, and the fever was extremely prolonged, the prostration after the attack being most severe. In most

of the cases recovery took place, but some cases under his care proved fatal, and in these the lesions were anatomically those of typhoid fever. In a few cases the eruption, although absent on the abdomen and anterior surface of the body, was found on examining the back—a few characteristic rose-coloured spots, coming out in successive crops, being discovered on the lumbar region, where they are seldom looked for. Another frequent peculiarity in these cases was obstinate constipation. The prolonged continuance of the fever, the extreme prostration of strength, and the protracted convalescence, were most remarkable features in this disease, which was of such a nondescript character that it could not well be definitely referred to any particular type.

DR. J. W. MOORE mentioned that early in October of the present year enteric fever broke out at No. 4, Malpas-street, Dublin. Three weeks subsequently a young man was admitted from that house into the Meath Hospital. He was at the time suffering from a fever which closely resembled that described by Dr. Little. At the same time a milk-maid was admitted from No. 9, Malpas-street. On inquiry he found that this girl had been in the habit of supplying milk from a dairy at No. 9 to different houses in the neighbourhood, including No. 4. He visited No. 4, and found in a room two children suffering from what was described by their medical attendant as "gastric fever;" and their mother told him that they had been three or four weeks ill. From the opposite room to that in which they lay, the young man already spoken of was admitted into the Meath Hospital; he was suffering from a nondescript fever. The milk-maid had been in the habit of supplying those children; she knew that they were ill, but their mother told her that it was only "gastric fever," and so she concluded that she and her milk were safe; but after a certain time she fell ill. In the Meath Hospital she passed through a well-marked enteric fever, uncomplicated, with moderate diarrhoea, a certain amount of rose-coloured spots, and the characteristic ranges of temperature. Just at the same time Dr. Walter Smith obtained admission to the Meath Hospital for some patients from a school to which he was medical attendant. First one girl was admitted. She passed through a very severe enteric fever, with copious diarrhoea—having had on one occasion seventeen motions in twenty-four hours—rose-coloured spots, severe head symptoms, and great prostration; she was at least five weeks ill. A few days afterwards two other girls were admitted from the same school. One of these presented the characteristics of uncomplicated enteric fever; and the other, characteristics closely resembling those described by Dr. Little. Several other girls in the same school were affected. He inquired into the sanitary arrangements of the school, and found nothing materially astray; but he learned that the institution was supplied with milk from the dairy at No. 9, Malpas-

street. These facts afforded a remarkable instance of the propagation of this peculiar form of fever through the agency of milk. The difference of type assumed by the disease in passing through the school was also remarkable.

DR. LITTLE, in reply, acknowledged that the suggestion of Dr. Doyle commended itself to him more than any of the others that had been thrown out, because he could hardly believe that his were cases of true enteric fever, unless they used that expression in a sense so vague as to deprive it of very much significance. In the instances he had recorded he could not ascertain that any other persons in the families had fever of any kind, and he should have expected, if those were cases of slowly developing enteric fever, that some other members of the family would have exhibited the disease in a more typical and pronounced form. He must acknowledge that in several of the cases he had ascertained that the persons had been exposed very much to fæcally contaminated air. In two cases, of which he had given no record, this had happened. Therefore, he was disposed to think that the disease was not true enteric fever, but some modified form of fever arising from the absorption of fæcal emanations.

STAFF-SURGEON GORE read a paper on *Typhoid Fever in the Dublin Garrison*. [It will be found at page 6.]

The PRESIDENT said the Society must feel obliged to Staff-Surgeon Gore for the amount of information he had given in his interesting paper with respect to the prevalence of fevers in the Dublin garrison.

DR. HENRY KENNEDY observed that one great cause which modified the duration of typhus fever was the amount of disease present in the intestine, and that the intestinal canal was often much more involved in one part than another. He referred to the cases reported by Louis, and said that the question was, could they have the fever without the local lesion? If there were only a violent congestion was it not possible for the disease to be fatal without any local lesion? This point was of importance as bearing on the duration of the disease. If there were little disease in the intestine the patient would rapidly recover, and *vice versa*. He had put forward the idea that in a large number of cases of typhoid fever the patients were of a strumous constitution; and in the cases alluded to by Dr. Little there were enlarged glands. Dr. Kennedy then referred to the morbid anatomy of typhoid fever, and to the similarity which Dr. Harley had endeavoured to show existed in the abdominal lesions in some cases of scarlatina to those of enteric fever. As regarded treatment, Dr. Kennedy believed much might be done by it;

and alluded to the discussion which had recently taken place between Dr. George Johnson and himself on this point.* He disapproved of the treatment of fever by the cold water bath, and thought that the recoveries in the cases treated by this method should rather be regarded as escapes.

DR. GRIMSHAW said that enteric and typhus fever had been on the increase during the latter end of last year and the beginning of this. It was also evident that there had been an increase in enteric fever lately. He did not think they had evidence to prove that the troops of the Dublin garrison were more unhealthy than troops similarly situated in towns where the sanitary condition of the population was the same, and the death-rate so high, as these were in the city of Dublin. The rate of mortality in Dublin was higher almost than that of any other town in the United Kingdom. According to a return recently published by Dr. Burke, of the General Registration Office, the death-rate of Dublin for a number of years had been over 30 per 1,000. A return published within the last few days showed the death-rate to be 28 per 1,000, of which a considerable proportion had been caused by zymotic diseases, although these did not bear any undue proportion to the general deaths. It could scarcely be expected that troops introduced into Dublin would not fall into the same condition of health as the rest of the population. Dr. Grimshaw then referred at length to the sanitary conditions of the barracks of Dublin, and particularly of Beggar's Bush Barracks, which he had minutely inspected and reported on in April last. The Constabulary Depot in Phoenix Park, a well-drained and healthy locality, also furnished constant cases of enteric fever. In the treatment of this disease his practice was to leave the patient as much as possible alone. Unless the diarrhoea was excessive we should be cautious about checking it; but in the recent cases of enteric fever he had seen the bowels were usually confined. He had tried the cold water treatment, and he did not intend to try it again. No doubt it cooled the patient, but the question was not yet settled whether high temperature *per se* was dangerous. Temperature could be more safely reduced by quinine, which would also act as a tonic, and he found it of the greatest possible value in most cases of enteric fever. He believed the mortality in the hospitals in which cold water had been tried was much higher than that of the Dublin hospitals. He had not seen any patients that he would be inclined to bleed.

SURGEON-MAJOR LAWRENCE (Grenadier Guards) said that there had been only two cases of enteric fever, both among officers, in Beggar's Bush Barracks since April, 1874, and it was a moot point whether in these cases the disease had not been contracted out of barracks. They

* Practitioner. January, June, and August, 1875.

had had six or eight cases among the men, every one of which, however, came from the Pigeon-House Fort. The situation of Beggar's Bush Barracks was low, and when the tide was out a quantity of gas collected in the drains, which was afterwards driven back into the barrack by the flow of the tide. He did not, however, believe that the drainage of the barrack was in such a deplorable state as they had been led to believe.

DR. GRIMSHAW said that an engineer officer in charge of the barrack at the time he visited it, pointed out to him four places where the drains were choked, at the rear of premises where an officer had died of typhoid fever. He was pointed out where new ventilating shafts had been erected, and he reported that the arrangements appeared to be such as would prevent anything of the sort occurring in future. What he stated was, that the conditions which existed previous to the improvements were such as, if there were any truth in the ideas with regard to the cause of enteric fever, would give rise to it. He did not say that they did give rise to it in Beggar's Bush Barracks.

STAFF-SURGEON GORE, in the course of a brief reply, approved of the use of milk and the employment of very little medicine in the treatment of enteric fever, the idea being to guide the disease in its course. In one case in which the diarrhoea was interfered with, the disease terminated fatally. The Registrar-General's returns did not show an increase of fever in the present year. In the beginning of the present year the number of zymotic cases was 323, as against 510 in the same quarter of 1874; for the July quarter the numbers were 166 less; and the numbers for the October quarter were 366, as against 540 for the same quarter of last year. It was believed that the Dublin garrison was worse off as regarded disease than civilians; but he found, from military returns, that zymotic disease during the quarter ending the 1st of October was, for civilians, 5 per 1,000, and for the garrison, only 1·7 per 1,000. As to the tide driving the gas of sewers upwards, the same thing occurred at the Royal Barracks.

DR. KENNEDY said he thought the Society should do everything in their power to encourage gentlemen in Dr. Gore's position to bring their experience before them. He moved that their special thanks were due to Dr. Gore for his able and interesting paper.

DR. GRIMSHAW seconded the motion, which having been unanimously passed, the Society adjourned.

PROCEEDINGS OF THE DUBLIN OBSTETRICAL SOCIETY.

THIRTY-EIGHTH ANNUAL SESSION.

LOMBE ATTHILL, M.D., President.

J. RUTHERFORD KIRKPATRICK, M.B., Honorary Secretary.

Saturday, December 11, 1876.

THE PRESIDENT in the Chair.

THE PRESIDENT asked Dr. T. More Madden to state the points on which he desired a discussion of his paper on the use of the long and short forceps, read at the last meeting of the preceding session.

DR. T. MORE MADDEN said he thought nothing could be of greater importance than the best manner and the proper time of affording assistance in a case of labour in which the natural efforts fail to accomplish safe delivery of a living child from a living mother. The use of the forceps had changed from the extreme of neglect to the extreme of use, and is recommended in almost every case of head presentation, and even some breech cases, and in some cases before the os uteri is fully dilated. He had called attention to two instruments—one a very short straight forceps, and the other a long double-curved forceps. He believed the short forceps suitable in ninety-nine cases out of one hundred, and the long one in those exceptional instances in which artificial delivery is required, before the head has entirely passed through the pelvis. He was anxious to obtain the opinion of the Society as to the proper time of applying the forceps, and whether it is a safe general practice to effect delivery before the natural dilatation of the os uteri. He would also be glad to hear any criticism on the instruments he submitted.

DR. CRANNY said: Dr. Madden says the long forceps is but a feeble tractor; but looking at his own and Dr. Barnes' long forceps, we perceive they can be used as a very powerful tractor as well as compressor. Though Dr. Madden says the forceps is much too frequently used now-a-days, he shows by his own paper that he is quite as ready to use them as any one else. His short forceps have been before the Society already, and I think a very decided opinion has been expressed on them. They are a very feeble instrument, as he himself says. I think credit is due to Dr.

Johnston, the late Master of the Rotunda, for bringing his cases forward, in which he shows the danger that may arise before the os is fully dilated. Dr. Madden says the short forceps is safer than the other, but I do not agree with him there either. I think the safest instrument is the one least likely to fail, and I have seen Dr. Madden's fail in very efficient hands, and slip off the child's head. Dr. Madden uses a very pretty allegory about a steam hammer cracking a nut; but I am afraid that his forceps has more of the steam-hammer about it than even Dr. Barnes'. He seems to have used Barnes' long forceps but once. I think if he were to use them more frequently he would like them better, for they are very safe and efficient. Dr. Madden's Tables are a little misleading, for he gives 163 cases twice. In the first Table he gives his hospital and private cases, and then he gives his private cases again. He says his short forceps may be used in ninety-nine out of one hundred cases; but his own Tables show that he used it only in about half the whole of his cases. Then he says the long instrument is seldom required. I am very glad to say it is seldom required, and I should hope his instrument would never be required, for it is one you have not control over. The screw part of the handles is very dangerous, in my opinion; you can never tell what amount of force you are using; you screw away, and are likely to make a cephalotribe of them and crush the head. I have used Dr. Barnes' forceps 110 times, and have never seen them to slip. I have seen living children delivered where craniotomy had been performed in previous labours. I have seen them used where, from deformity of the pelvis, there was a large indentation on the head of the child that half a walnut would fit in. Well, if it is capable of delivering in these cases, I think it is an instrument we ought to adopt in preference to Dr. Madden's.

DR. BYRNE thought Dr. Madden's paper may be classified under these heads:—First, a *résumé* of the literature of the forceps, in which Dr. Madden has broached nothing novel; second, a study of the cases in which Dr. Madden used the forceps—163 in hospital and private practice, and 75 subsequent cases in private practice. Out of 163 cases in which he used the forceps, 86 were cases of inertia of the uterus—49 in primiparæ and 37 in multiparæ—an unusually large proportion. He agreed with Dr. Madden, that inertia in the first stage in primiparous cases often becomes active labour in the subsequent stages. Dr. Madden used the forceps in 32 cases of disproportion—15 in primiparæ and 17 multiparæ—that is, 1 in 5—but he does not very accurately describe the cases, or state in which of them he used the long and in which the short forceps. He states he used it in 11 cases of malposition of the head, although experience showed they were very seldom obliged to resort to operative interference for malposition of the head. In fact, unless very urgent symptoms arise, to change the position of the head is looked on with

disfavour by the profession in this city, and in London, he should say, too. Yet Dr. Madden used the forceps in primiparous cases 4 times, and multiparous 6 times, out of his 163 cases; that is, once in 16 cases. The question, therefore, was, were they, where the os uteri was undilated and impossible of dilatation at least at the time, to introduce the long forceps, for the short would not reach the os uteri. He thought they should not adopt, without very careful consideration, this line of treatment in cases of rigidity where there was danger of rupture. Dr. Madden stated he used the forceps three times in cases of threatened rupture of the uterus; that is, once in 54 times. He (Dr. Byrne) thought it very difficult for any gentleman to feel warranted in saying that any particular case was in danger of rupture of the uterus. If they were to be led by the fear of rupture on every occasion where strong uterine action existed to introduce the forceps, he thought it would be an innovation in obstetric operations. Dr. Madden stated he used the forceps once in a case of real rupture, but did not explain the particular case. This also was an innovation. The fœtus would be in the abdominal cavity, unless the head was extremely low down in the pelvis. He (Dr. Byrne) had seen several cases of rupture of the uterus, and the only time he ever attempted to apply the forceps the head immediately receded into the abdominal cavity. He thought they should discard the forceps in rupture of the uterus, but at the same time they may meet a case where it may be required. In the 163 cases Dr. Madden used the short forceps in primiparous cases 41 times, and the long hospital forceps 47 times; and in multiparous women, the short forceps 42 times, the long 21 times, and the ordinary hospital forceps 12 times. Thus the long forceps were used with a certain amount of discrimination, and the short forceps more frequently than the long. One of the best means of estimating operations was the effects on mother and child. Accordingly, in the 163 cases where the forceps were used, 17 children were still-born, and 11 of the mothers died—a fair average mortality at all events. Eliminating many of the cases where the forceps was, perhaps, not necessary, and coming to the number in which the forceps was really necessary, they would, he thought, have a much larger proportional mortality. In the other 75 cases, there was disproportion in 1 out of every $3\frac{1}{2}$, rigidity 1 in every 7, no rupture, no threatened rupture, and 6 of the mothers died. Out of 17 cases in the third Table, 3 children and 3 mothers died. The long forceps was used 28 times, comprising 7 cases of inertia, 7 disproportion and rigidity, 2 accidental hæmorrhage, 1 convulsions, and in the 17 cases 10 children and 7 mothers died.

DR. JOHNSTON said that, though not an advocate for meddlesome midwifery, the more he saw of the practice of the early use of the forceps the more he urged it on his fellow-practitioners before the patient became

broken down by exhaustion and the secretions dried up from irritation. Every other means should be used in the first instance; but when nature was found unable to perform her duties, they should interfere with artificial aid, even though the os uteri was not fully dilated. He was led to employ the forceps before full dilatation by a case in which he followed the old rule of not interfering until the os was completely dilated, the result of which was complete separation of the body from the cervix by sloughing, and the death of the mother within forty-eight hours. That induced him to employ the forceps in the first stage of labour, and he was happy to say that the more he saw of the practice the more he was induced to follow it. Out of 170 cases in which they had used the forceps in the first stage of labour, they had only ten deaths, and those arose from other causes, and not traceable in any way to the effects of the operation; for in each case a *post mortem* examination was made, and in no one instance did the cervix present any appearance beyond what would be seen under ordinary circumstances. He looked on Dr. Madden's short forceps as a very poor instrument. When the head is pressing on the perinæum, and only wants a little bulging forward, the instrument will do very well; but when the head is in the cavity of the pelvis, Barnes' forceps is an admirable instrument, which gives perfect command, even though the head may be above the brim. In a great number of instances they had been able with Barnes' double-curved forceps to deliver the child in most cases alive. Though recommending the early application of instruments, he warned practitioners and students against the abuse of them. A man should have perfect tact with his fingers not only to feel the nature of the presentation and the state of the os uteri, but to be most cautious in the introduction of an instrument, even though the os was fully dilated—not to consider the axis of the pelvis might lead to considerable injury.

The PRESIDENT said there were three principal subjects brought forward for discussion by Dr. Madden—first, is the forceps used too frequently at present? second, are the long forceps capable of being used so as to supersede the perforator and cephalotribe? and third, were the instruments before them superior to those in general use? His own opinion was that there is a tendency to the too frequent use of the forceps in cases in which a woman could, if left a little longer, be delivered by the natural efforts, and he did not think Dr. Madden's little forceps was calculated to diminish that tendency, for a man having that little instrument would be tempted to slip it on and deliver, though in twenty minutes more delivery would take place unaided. As to whether the long forceps in certain cases were calculated to supersede the perforator and cephalotribe, he thought they were. He also thought that the double-curved long forceps would enable them frequently—he used

the word advisedly—to extract a living child with safety to the mother, which formerly would have been sacrificed. Thirdly, as to whether these instruments were superior to those in use at present, he did not think they were. Until about five years ago he had used Beatty's forceps, which, in the majority of cases, is an efficient instrument, but of late he had fairly tested Dr. Barnes' double-curved forceps, and in the majority of cases now used that instrument. He endorsed Dr. Johnston's view that two instruments are not necessary. He believed that Dr. Barnes' double-curved forceps would extract the head in any case in which it is possible to extract a living child. To Dr. Madden's long forceps there were several objections. He thought their additional compressing power a disadvantage instead of an advantage. With Dr. Barnes' forceps you could bring down the head of a child from above the brim in a pelvis, even when under the normal diameter, and yet not compress the head to the extreme extent which Dr. Madden's forceps would permit. He believed that if he compressed the head to a greater degree than Barnes' forceps admitted of, the child would not be extracted alive. The divided handles of Dr. Madden's instrument were another disadvantage. They were so made for facility of introduction, he presumed.

DR. MADDEN—And for facility of carriage.

The **PRESIDENT**—Dr. Barnes' forceps was very easily applied. You need not bring the hips of the mother completely over the edge of the bed, as it was introduced in the antero-posterior diameter. I do not say that Beatty's or Churchill's forceps are not sufficient in a great number of cases, but I think Barnes' is easier of application in all cases, no matter whether the child's head is high or not, and is more efficient. Lastly, as to whether these forceps are an innovation at all, I do not think they are. If you want a "compressor and tractor," I think you have it here (in Levret's). I do not know the age of this instrument. I took it out of the museum of the Rotunda Hospital. Next, if you want a very small forceps to apply when the head is as low as possible, you have them here in Atkin's, an old instrument also out of the museum of the Rotunda Hospital. The difference between this and Dr. Madden's instrument is nothing startling, to say the least of it. In point of size Atkin's is the smaller of the two. The President hoped the discussion would deter practitioners from the unnecessary use of instruments. He hoped also it would deter them from using the long forceps in a narrow pelvis to the danger of the mother's life, in the vain hope of saving that of the child.

DR. F. T. PORTER asked if Dr. Madden had noticed any remote ill effects occurring to the children from the use of the forceps, for it exercised a very strong compressing force.

DR. KIDD.—Of the points specially considered to-night, the first and perhaps the most important, is as to the frequency of using the forceps. Now, Sir, it will be, perhaps, in the recollection of the Society, that on the occasion of one of the addresses that I had the honour to deliver from that chair, I entered pretty fully into this question, as to the advantages of using the forceps frequently, and I attempted to show from an analysis of cases detailed in the various published reports of the institution, over which you now preside, that in proportion to the forceps being used frequently in cases of tedious and difficult labours, the deaths of the mothers diminished, and also the deaths of the children. I am still, and have always been, an advocate for the early and frequent use of the forceps. But, on the other hand, are we to rush to the extreme that Dr. Madden has spoken of, and to use the forceps in all cases, or at least in the great majority of cases? This is a practice that I confess I agree with Dr. Byrne in thinking we are gliding into, that is, that we are coming to use the forceps more frequently than is at all desirable. The great rule in my mind is, that the propriety of using the forceps is not to depend on the time that has elapsed, nor on the position of the child's head. It used to be taught that we should not use the forceps until four or six hours had elapsed in the second stage of labour, and never until we could feel the ear. I believe that this is all erroneous. The rule that I myself adopt is, that when in the second stage I find the pulse begin to rise, and getting steadily up above 100, the vagina becoming hot and dry, the tongue becoming dry, and the patient getting exceedingly irritable—then, no matter how short the time that has elapsed, I at once recommend that delivery shall be completed. Now, coming to the question of putting on the forceps in the first stage of labour, I believe these symptoms very rarely occur in the first stage. If the membranes be unruptured and the patient properly treated—not over-stimulated, not kept in a too-heated atmosphere, not induced to make violent efforts at expulsion—it is exceedingly rare to find any symptoms of this kind during the first stage, and consequently it is undesirable to use the forceps. But if we have a patient with serious cardiac, or pulmonary disease, or with hæmorrhage going on, or convulsions, or if we have a patient with a certain amount of fever evidently setting in, then the question of delivery in the first stage will arise. When the os was sufficiently dilatable, I have frequently delivered safely with the forceps during the first stage of labour. But if the case be one in which you are induced to operate, because the pulse has risen and the membranes have been early ruptured, you will probably find a very rigid os, and though you may put on the forceps, my own experience is (I believe it is not Dr. Johnston's, but I have reason to know that some other members in this room have experienced it) that if you put on the forceps you will have very great

difficulty in drawing the head through the os uteri; and, in my humble opinion, it is a safer plan of treatment to give tartar emetic and opium, or opium alone, warm baths and chloroform, and, if these fail, to dilate the os with Barnes' bags, even incising it in extreme cases, and to gradually insinuate the hand into the uterus and turn the child, and to deliver by the feet. Therefore I would say with regard to the use of the forceps in the first stage of labour, that it should be confined to cases where the os is freely dilatable. Another point in this paper of Dr. Madden's is as to the advantage of the long curved forceps. He has laid before us to-night a very long forceps with a moderate pelvic curve. This pelvic curve, which I think was first introduced by Levret, was originally designed under the idea that it corresponded to the curve of the sacrum, and that it was, consequently, safer for the perinæum. In Levret's forceps, which the President has laid on the table, you will observe that the curve takes place much further from the point than in Dr. Madden's forceps. In Dr. Madden's forceps the curve is near the extremity of the blade, and when the instrument is applied the curved part will be on the head, and the remainder of the instrument, that is, from the vertex of the child to the handle, will be virtually straight. This is equally the case with Barnes' and most of the modern curved forceps. In Levret's forceps the idea is that the curve follows the shape of the sacrum and will save the perinæum. However, this reason for the pelvic curve is now changed and I may say given up. The only reason that has been adduced for the pelvic curve here to-night, and which I believe is Dr. Johnston's principal reason for preferring the forceps with this curve, is that it does not slip but holds better than the other forceps. If it be true that it is less likely to slip, which I am not certain of, I really doubt very much whether that is an advantage. To seize a child's head so firmly in a forceps that you can drag it through a narrow passage, running the risk of tearing and bruising the soft parts of the mother, is a very doubtful advantage. We all have heard the old story about the dentist's key made of lead having been put in the temple of Janus—the meaning of which was that no tooth that could not be pulled out with such an instrument ought to be pulled out at all. I think there is some truth in that as to pulling out teeth, and I am quite sure that pulling a foetal head through a contracted passage with a forceps that will hold it so firmly that it cannot slip, is bad practice. Sir, do not let it be imagined that I impute this practice to Dr. Johnston or Dr. Madden. I have no idea of doing anything of the kind. I am sure they are as well aware of the import of such a course of operation as any member of this Society. But, to place in the hands of an inexperienced man a forceps capable of doing this, and to tell him that that is its great advantage, I think is very questionable teaching. You spoke, Sir, just now, of your experience of the double-curved forceps. You fell in

love with a double-curved forceps in a case in which it was utterly unnecessary.

The PRESIDENT.—Just so.

DR. KIDD.—You had a case in which the head was pressing on the perineum, and you found it easy to introduce the double-curved forceps and deliver the woman. I think you could have delivered her as easily with Dr. Madden's small forceps, and that the double curve was utterly useless under the circumstances.

The PRESIDENT.—I stated so.

DR. KIDD.—The double-curved forceps, if it is to be used at all, I believe is only useful in cases of the high operation. You may divide operations with the forceps into three classes:—First, the low operation, where the head is on the perineum and its exit obstructed by the rigidity of the soft parts, or delayed for want of action—any forceps will deliver under these circumstances. Secondly, the middle operation, when you have the head lying in the cavity of the pelvis, before it has come down on the perineum, and where, perhaps, the base of the skull is not quite through the brim—any forceps will, I believe, enable you to deliver that head, whether the forceps be straight or curved. Thirdly, you may have the head at the brim—now here it is, if anywhere, that there is an advantage in this double curve; but, in my humble opinion the disadvantages are greater than any possible advantages. In the first place, I believe the instrument is more difficult to introduce; you have to be very careful which blade you introduce first; you have to calculate exactly how you are directing the point of it; it does not go in a right line with the handle, so that you have to keep your mind's eye on the point, instead of being simply satisfied with the direction of the handle. These are, perhaps, minor disadvantages, but suppose that the head is in the third or fourth position, or suppose it is—as you generally see it where you have a narrow brim—lying at the brim in the transverse diameter of the pelvis, either the right or left, then I think the double curve is a disadvantage. But the most important point is as to cases where the head presents in the third or fourth position. It is somewhat remarkable that all the authors who recommend us to use the double-curved forceps recommend that we shall not attempt to correct any mal-presentation. That is, if you have the head in the third or fourth position of Naegle, those who use the straight forceps always advise you to turn the head into the first or second position; but those who use the double-curved forceps always tell you that you cannot correct the displacement. This, to my mind, is a great objection to the double-curved forceps. I know by my own experience and by the teaching of those for whom I have the very greatest respect, that a head in the third or fourth position can, with the straight forceps, in the great majority of cases, be

converted into the first or second, and that delivery is then much more easy and safe for the mother. Not only is this the case, but it often happens that the head turns of its own accord in its passage through the pelvis, from the third or fourth into the first or second position, carrying the forceps round with it, whether curved or straight. When this occurs with the straight forceps, it does not in any way interfere with the use of the instrument—it only facilitates the operation; but when it occurs with the curved instrument, the blades must be withdrawn, turned round, and again introduced, if the delivery is to be effected safely and well. I submit, then, that these are very grave objections to the use of the double or pelvic-curved forceps; but at the same time I must admit that the importance of the difference between the single curve and double curve has been exaggerated; for after all, a man who is accustomed to use one or other instrument, who knows what he is about, and understands the anatomy of the pelvis, and the mechanism of labour, will, I believe, use either instrument safely. But so far as my experience and comprehension of the subject goes, I maintain that the straight forceps is a fitter and more useful instrument. Mr. Porter has alluded to the effect of compressing the child's head with this very long forceps. Dr. Mitchel, Commissioner of Lunacy in Scotland, has made a series of observations on the causes of idiocy, and he maintains—whether rightly or wrongly I am not prepared to say—that one of the most frequent causes of idiocy is the compression the head undergoes in difficult parturition, and the statement is very important as bearing on the question now before the Society.

DR. M'CCLINTOCK said that many years ago he had laid down the distinction between the high and low operations. Dr. Kidd had now with great propriety made a nicer distinction by dividing them into three classes. With regard to the relative merits of the long double-curved and straight forceps, he concurred very much with Dr. Kidd. He thought there is a strong tendency at the present time to the too frequent use of the forceps. He agreed with Dr. Kidd that the symptoms of the mother would point out to a shrewd, observant practitioner the time to interfere. Dr. Kidd's remarks on that point are not essentially different from those laid down by Collins, Denman, and others. Dr. Madden did not appear to him to have introduced any new principle in the construction of his instruments. He (Dr. M'Cclintock) was inclined to agree with the observation of Dr. Robert Lee, that it does not depend so much on the form of instrument as that the practitioner shall know the proper case to use the forceps in, possess a competent knowledge of the mechanism of parturition, and have been educated to apply the instrument with care and gentleness.

Further discussion of Dr. Madden's paper was adjourned.

PROCEEDINGS OF THE PATHOLOGICAL SOCIETY OF DUBLIN.

President—ROBERT M'DONNELL, M.D., F.R.S.

Secretary—E. H. BENNETT, M.D.

Typhoid Fever with Perforation of the Intestine; Peritonitis.—PROFESSOR MOORE exhibited a portion of the ileum taken from a boy, about ten years of age, who was admitted into Sir P. Dun's Hospital on the 27th of October. He said: This child, from the date of his admission till within a few hours before death, kept almost incessantly screaming. It resembled the violent screaming of meningitis, but there was no retraction of the head, or flattened abdomen, with constipation; on the contrary, the boy had diarrhoea, whilst his temperature, which on admission was 102° Fahrenheit, kept progressively rising, nor did it present any of the variations and want of correlation observed in meningitis. However, this question was soon set at rest by the appearance of a few rose spots. As far as we could find out, this patient was eight days in fever when admitted, with (as I have mentioned) an evening temperature of 102°; this gradually rose to 103·9°. The diarrhoea was very frequent from time to time, but there was no hæmorrhage. On the morning of Friday, the 5th November, a remarkable change had come over the patient—the face was pale, pinched, and oblong; he lay on his back, with the knees drawn up, whilst his respiration was rapid, and the pulse scarcely perceptible; the temperature having fallen about one degree, this fall continued on Saturday and Sunday, on which night the boy died.

The *post mortem* was carefully made by Dr. Barton. There was no evidence of disease in the brain or meninges. The abdomen presented all the signs of recent peritonitis, the cavity being full of fæcal matter. On examining the ileum an ulcer was found in every Peyer's patch as you neared the cæcum; to most of these ulcers the sloughs adhered, and in more than one a thin layer of peritoneum alone prevented perforation. One ulcer, about eight inches from the caput coli, had perforated the intestine, the perforated spot being about the size of a small goose-quill. There were no ulcers in the cæcum. Dr. Moore considered the following points of some interest and importance. In the first place, it is comparatively rare to meet with perforation in so young a subject; secondly, although diarrhoea was frequent occasionally during the fever, no hæmorrhage occurred; thirdly, perforation occurred about the sixteenth day, which is about the time experience proves perforation may be expected; and lastly, from the date of the occurrence of the perforation till the time of the child's

death, about sixty hours, the temperature fell more than three degrees.—*November 27, 1875.*

Vesical Calculus.—MR. STOKES said: Stone in the bladder is a condition now so rarely observed in this country that any specimen of it coming under the notice of the surgeon, and which he has to interfere with in an operative way, is not unworthy of being submitted to this Society. The cluster of *calculi* which I exhibit were removed by me yesterday, by lithotomy, from the bladder of a patient, aged forty-five years, who had been admitted into the Richmond Hospital, under my care, about six weeks ago, having been recommended to me by an eminent surgeon in the west of Ireland. All the ordinary signs and symptoms, which it is needless for me to discuss now, were well marked in the case; but I hesitated about operating until yesterday, and in that course was borne out by the opinions of my colleagues, with whom I had several consultations. The reason for the delay was the extreme state of debility and exhaustion present in the patient—a condition which, I believe, was produced, not only from great urinary distress, but also by chronic diarrhoea, which we had great difficulty in stopping; for after it had been stopped, and he had remained free of it for some days, it would come on again. This had reduced him to such a state that it made me fear greatly to interfere with him in an operative way. In addition to consultation with my colleagues, we had the advantage of the opinions of Mr. Porter and Mr. Callendar, of St. Bartholomew's Hospital, London, who agreed with us as to the desirability of postponing all operative interference until the patient's health had been brought into a better state. This fortunately took place, and I yesterday removed these *calculi* by the operation generally known as Allarton's Median Lithotomy. The operation was beset with great difficulties, the nature of which this is not the time or place to discuss. It is sufficient to say that they were overcome, and this large cluster of *calculi* removed. They are of a compound nature, consisting of urates of calcium, ammonium, and sodium, with a little of the triple phosphates. For the analysis I am indebted to Professor Cameron, of the Royal College of Surgeons. I may mention that so far everything has gone well, his pulse and temperature being very little over the normal standard to-day.—*November 27, 1875.*

Gall-stones.—MR. F. T. PORTER said: The specimen I have to exhibit consists of a pair of gall-stones, which are interesting on account of their weight. Each of them weighs two drachms. There is one case on record of a very large stone found in a gall-bladder, but it only weighed two drachms; and that case occurred in the practice of Dr. Haberton, who found the stone in the gall-bladder of an ancestor of Lord Bute. There are some facts connected with the *post mortem* appearances of the body

which I think it well to mention. The liver was extensively cirrhotic. There was no trace of bile in the liver, and very little in the gall-bladder itself. The spleen was about the size of a small bantam-egg, and consisted of a mere pulp. The integuments were more than an inch thick, with fat all over the body, except on the feet. I thought it interesting that where the liver had been subject to such a destructive process of cirrhosis, and contained no trace of bile, there should be neither dropsy nor jaundice. Another interesting appearance about the subject was this—that I never saw a more muscular man during the whole course of my life. The muscles of his arms and legs would have been models for any sculptor. But what seemed curious was that, although he was so muscular, the heart was in an advanced state of fatty degeneration. I could put my finger through it. The cavities were dilated, but there was no thickening of the walls. The case, I think, is interesting, as denoting the value of the condition of the heart as an index of the state of the muscular system generally. Dr. Stokes has touched on the condition of the heart in typhus fever, but I am not aware of any authority who has entered upon the relation between the condition of the heart and that of the rest of the muscular system in the case of fatty degeneration of the former organ. It certainly does appear strange and puzzling how a heart in such a state, and without any muscularity, could for a prolonged period have exercised the amount of force necessary to supply the wants of so powerful a muscular system, because fatty degeneration does not occur in a few weeks or months, but often goes on for years. Another question of interest is this—that the heart lost in weight according as it became fatty, which I consider to be a circumstance worth the notice of those who say that the sustaining power of work done by a muscle depends on its weight. That heart had lost weight, and yet continued to exercise a considerable amount of sustaining power. If that view be true, the person could not have lived for any length of time with such a heart, and we should accordingly have to look out for some other cause—perhaps vital impulse—as a means of explaining the sustentation of the muscular system. There is a third stone, which, however, has nothing remarkable about it, except its transparency. It weighs about 48 grains.—*November 27, 1875.*

Uterine Myoma.—DR. M'CLINTOCK said: The specimen I have the honour of exhibiting to the Society is one of a kind of which numberless examples have been shown here from time to time. It represents a disease which is extremely common. It is a most beautiful and typical specimen of fibroid polypus of the uterus. It is of a perfectly white colour, and presents the fibrous character that all these tumours do; but it is not so hard and resisting as they generally are. This is a disease very well known to gynaecologists. It was originally described by

Matthew Baillie under the name of fleshy tubercle of the uterus, and successively it received the names of fibrous tumour, fibroid, and fibroma; then hysteroma, from its resemblance to the normal structure of the uterus; and lastly, the name was given to it of *myoma*, for the fibres of which it is composed bear the closest identity to the normal unstripped muscular fibres of a healthy uterus. In fact, the two are scarcely to be distinguished one from the other. Whether this was originally a submucous fibroid, which was projected from the wall of the uterus, became pediculated, and finally was extruded from the uterus into the vagina, or whether it was *ab initio* a polypus, I cannot say. Some eminent pathologists assert that there is an essential difference between the two in the mode of growth, and that a point of distinction is, that the submucous fibroid, when it is extruded from the uterus, never has any proper investing coat, whereas that which is a polypoid growth from the beginning has a proper investing coat. I cannot find that this tumour possesses any proper investing coat. The history of the present case is very like that of the ordinary run of cases of the kind. The patient was an unmarried lady of between forty-five and fifty years of age. She had suffered for several years from metrorrhagia. I had seen her some months. Before this was removed I had ascertained that the uterus was enlarged, but whether from a fibroid tumour or a polypus I could not say, for she would not submit to the exploration necessary to determine this question. I was called on to see her three or four months afterwards, on her return to the country, and found that she had profuse, frequently-recurring hæmorrhages, which had reduced her to the most extreme degree of chronic anæmia I had ever seen. She had frequent sickness of the stomach and utter loss of appetite. She was of a transparent yellowish-white colour, and extremely thin. She suffered terribly from neuralgia and sleeplessness, and had slight œdema of the lower extremities. Her weakness was such that it was with difficulty she could be carried from one bed to another. On consultation with Dr. Denham, we agreed that the only chance of preserving her life lay in the extirpation of the tumour, as it was probable that the next attack of hæmorrhage would carry her off. The tumour was removed with a wire ecraseur under chloroform. It weighed nine ounces, and owing to its size, and the smallness of the vagina, there was much difficulty in extracting it, after the pedicle was cut through. It is now over a month since the operation, and the patient is slowly regaining her health.—*November 27, 1875.*

Fracture of the Patella.—MR. CROLY said: This is a specimen of transverse fracture of the patella, united partially by bone and partially by ligament. The man from whose body it was removed was admitted so far back as the session of 1854–55 into the City of Dublin Hospital, under

the care of the late Professor Geoghegan. I was then "Purser Student" (Resident Pupil) in the hospital, and had charge of the case. I watched the man since, and frequently had him in the hospital, for the purpose of showing his knee to the class when we had fractures of the patella under consideration. He lately presented himself suffering under Bright's disease of the kidneys, and was admitted, on my recommendation, under the care of my colleague, Dr. Hawtrey Benson. He died last night, and an hour and a half ago I removed the two patellæ. The left patella is the one that was fractured. During his life the man had every motion of the left leg that he had with the right one; in fact, it was difficult to tell, on examination of the knee-joints, which patella had been fractured. The only way in which the fractured patella could be distinguished during his life was by the difference in the length of the bones, and we could tell that there was an addition to the left one. On removing the fractured patella to-day the first thing that I noticed was that the cartilage was eroded on the external condyle of the femur. On looking at the patella you can see a line where the fracture ran, and corresponding with that line below there is an osseous deposit. Then there is a very narrow line of ligament, not at all as wide as appears when the bone is examined in front. The line between the fragments is extremely small, and filled with a ligamentous tissue. There is a considerable deposit of bone above the seat of the fracture and below it. Such a case is very interesting, where the man said he had such a perfect use of the joint, and where the question of bony or ligamentous union in such fractures is often discussed.—*November 27, 1875.*

CLINICAL RECORDS.

Two Cases of Amputation through the Hip-Joint. Lately under the care of MR. EDWARD STAMER O'GRADY, Ch.M., M.B., A.B., Univ. Dub.; Surgeon to Mercer's Hospital; Fellow and Member of the Surgical Court of Examiners, R.C.S.I.; Licentiate of the King and Queen's College of Physicians; formerly Lecturer on Surgical and Operative Anatomy at the Carmichael School of Medicine, &c., &c.

In the first instance the disarticulation through the hip was subsequent to amputation of the thigh, and was followed by the recovery of the patient.

J. K. (No. 1,632), a "tip boy" in the service of the Tramway Company, sixteen years of age, was admitted to the hospital on the 20th of February, 1874. Four days previously the horse he was riding fell, and lay for a time on his right knee and leg. On being extricated it was evident that the limb was severely hurt, but nevertheless the lad managed, with assistance on either side, to walk a considerable distance to his home. Here he was visited by Dr. Wm. Dudley White, to whose friendship and courtesy I am indebted for the opportunity of subsequently treating this extremely important case.

On admission the entire limb was seen to be greatly swollen; the region of the knee was hot, painful, and exquisitely tender to the touch; on the outer side of, and rather above the joint, was some abrasion of the integument, but this was neither severe nor extensive. Accurate measurement showed that the limb was one inch shorter than its fellow. Manipulation seemed to cause much suffering, the pain being general through the thigh, and not referred to any particular spot. No satisfactory crepitus could be elicited. The injured extremity was placed on a long and well-padded gutter splint, and carefully secured to it by suitable bandaging. A muriate of ammonia lotion was directed to be kept constantly applied to the region of the knee. Against the 23rd the heat and tension had considerably abated; simple dressing to the abraded surface was now substituted for the cold lotion, the limb continuing to be preserved in a state of absolute rest, the bandages having been so arranged as to allow of the necessary renewals of the dressings without in any way disturbing it. A quinine and iron mixture was prescribed for the lad, who looked pale and anæmic. Complaint was no longer made of local pain, but constitutional disturbance had begun; this increased steadily, the pulse going up day by day; against the 2nd of March it reached



M^R B. S. C. S. R. A. N. Y.
CASES OF AMPUTATION THROUGH HIP-JOINT.

Engr^d by John Fallover, Dublin.

From a Photo by J. Robinson & Sons



130. This day on raising, as usual, the dressing it was evident that matter was pointing beneath the abraded surface already spoken of. The bandages were now completely divided, when the entire region of the knee was ascertained to be in a "boggy" state, and palpation showed the presence of emphysematous crackling along the internal muscular planes from the knee almost to the groin. An incision, made into the most fluctuating spot, gave exit to a quantity of black clots and excessively foetid pus, gaseous products also bubbling out freely. The thigh was uniformly supported by soft tails, and the apparatus rearranged so as to admit of the application of large charcoal poultices. Quinine, reduced iron, *nux vomica*, with half-grain doses of opium, were prescribed in pill.

5th.—The incision was elongated so as to admit of the ready introduction of three fingers. A piece of loose bone was felt, and easily drawn out; this was about the size of a filbert, and was a portion of the external condyle of the femur, the remaining shattered surface of which, together with the external condyloid ridge and posterior aspect of the inferior portion of the femur, was exposed and rough, being quite denuded of periosteum. Transient constitutional improvement followed the making of the incisions; the pulse came down for the time, being on the 9th 104; the tongue was now moist and clean, the patient sleeping well without other opiate than that contained in the pills. Local conditions, however, had in no way bettered—the discharge from the immediate neighbourhood of the cut continued to be thin, foetid, and of very unhealthy appearance. Pressure made at the upper and inner parts of the thigh, in the region corresponding to the insertion of the *psoas* muscle, also caused pus—but of a totally different character, being thick, creamy, and quite healthy in appearance—to flow freely from the wound. Since it was made the cavity has been twice a day syringed out with a solution of permanganate of potash, the limb, duly supported with pads and bandages, remaining arranged on the splint as heretofore. The proposal to amputate the thigh was determinedly declined by both the lad and his mother.

Patient's appetite remained good; he continued to sleep well, and from day to day but little-defined change presented in his condition. Still, as time passed, it became very evident that ground was steadily lost; the thigh became infiltrated (no opportunity being afforded for counter-openings), the discharge continuing constant and increasing. Emaciation, too, was progressive, and associated with increasing anæmia and weakness; the pulse usually ranged between 120 and 130, the slightest pressure of the finger stopping the beat in the radial. Spite, too, of every care there was threatening of bed-sore. The thigh was eventually amputated on the 30th of the month (March), the previous day the bowels were gently acted on by a castor-oil draught. At 7

o'clock, a.m., on the morning of operation, an egg, beaten up with brandy, was taken; the stimulant was repeated at 9 o'clock, and shortly afterwards chloroform was given him by Dr. Mason. The anæsthetic was well borne. For some time prior to the operation the limb was raised into an elevated position, and firmly bandaged. In consequence of the generally diseased state of the soft parts, the circular procedure was selected, the cutaneous section being made about the middle of the thigh. The integumental cuff required to be reflected higher up than usual, in consequence of existing extensive separation between it and the deeper structures. After division of the muscles, periosteal curtains were cut and reflected by the raspator, the membrane curling up before the instrument—in fact, so loose was its adhesion to the bone that when sawing the femur* the mere pressure exercised on the soft parts by the linen retractor shelled up the periosteum further still, denuding nearly an inch more of the bone. After the vessels, five in number, were secured by catgut ligatures (the hæmorrhage during the operation had been almost *nil*), the protruding portion of bone was sawn off. A forty-grain solution of chloride of zinc was then poured into the stump, the skin cuff being held well up so that the antiseptic might permeate freely into the various suppurating interstices; in addition to the large and irregular subcutaneous chamber, there were several intermuscular burrowings and sinuses. Prior to removal from the table an enema of whiskey and aromatic spirit of ammonia was thrown up, after which the lad rallied a little, and was then carried on the "operation stretcher"^b to the ready-

* Autopsy of the limb showed that extensive subcutaneous blood extravasation still remained. The muscular and tendinous structures surrounding the joint, specially in connexion with the superior and posterior regions, were matted together and obscured by foetid purulent infiltration; the lower end of the shaft of the femur was bathed in pus of similar character, with periosteum, which was of a dark slate colour, and contained here and there laminae of bony matter, completely detached and in parts extensively lacerated. The epiphysis, too, was separate from the shaft, and displaced slightly outwards. In addition to the large piece already quoted as broken from the external condyle, there were some small particles and detritus. Opening the knee-joint gave exit to some excessively stinking pus, which being washed away, the synovial membrane was seen to be of a dark soot-like hue, and in a condition of gangrenous synovitis.

^b It is composed of a couple of yards of strong twill material, sown firmly along each side into a hem sufficiently wide to admit the passage of smooth ashlen poles of about 1½ inch diameter. These poles, rather over 8 feet in length, have a foot or so at each end gently tapered to facilitate the putting on, or removal of, the extensor or terminal irons. These bear, at either extremity, an eye of sufficient size to admit the insertion of the pole to a point corresponding to the intervention of the sheeting. It is preferable that the terminal irons, instead of being straight (as in some hospitals), should be bent at right angles about five inches from the eyes, as the arrangement admits of the stretcher being rested on the ground, whilst the patient's body is still supported from it. The stretchers in Mercer's Hospital are made for 21 inches wide. In use, the sheet is spread on the table before the operation; when subsequently required to

heated bed, when 25 drops of Battley were given with half an ounce of burnt brandy. A couple of hours after being placed in bed, slight sickness of stomach occurred; this soon stopped, and he then rallied well. The stump was left open for four hours and a half, when a few broad straps of plaster were gently passed beneath it, in such manner as to support the circumference, and leave the ends freely open. The parts were then further steadied and supported by a spica bandage applied from above downwards. A cloth saturated with a mixture of morphia, carbolic acid, and glycerine, laid over the cut, completed the dressing. After an opiate some slumber was enjoyed, and later in the evening a little tea and toast was taken by desire. Urine was also passed *without the aid of a catheter*. For a time the removal of the limb was followed by decided amelioration in the constitutional phenomena. In a few days the pulse was down to less than 100; the lad slept well, and appetite became excellent. Pills composed of 2 grains of quinine, $1\frac{1}{2}$ reduced iron, $\frac{1}{2}$ grain opium, and $\frac{1}{4}$ grain extract of belladonna, were given three times a day—a freely nutritious diet being allowed, with a moderate allowance of stimulants.*

The threatening bed-sore also aborted, a large water-cushion being in constant use. For some days much creamy, blood-stained discharge, gradually becoming thinner, free from ill odour, came from the stump. This had a tendency to retract and open, showing the muscular substance at the bottom to have an unhealthy grey appearance, which it was slow to lose. Various stimulant applications were in turn tried; those which seemed to answer best were lint wrung out of hot water, sprinkled with camphorated spirits of wine, and covered with oiled silk, alternated with fermenting poultices; the tissues of the stump continued to be carefully supported with suitable bandaging, whilst at its end was left the amplest vent for the escape of matter. At the dressing on the 12th April it was seen that here and there some bands of deep union had occurred at the bottom of the wound, but this still looked generally "dirty," the discharge continuing abundant and thin, though free from fœtor. Every day when the weather permitted the patient was carried

answer the purposes of a bearer, it is only necessary to slip the poles through the hems and adjust the terminal irons. After transportation to the ward the whole affair can be laid *en masse* on the sufferer's bed, the irons taken off and poles removed, the sheet being still allowed to remain, if desirable, undisturbed beneath him. By the same means, it is obvious the transportation of a bad case to the operation-room can be much facilitated. By this simple and handy contrivance, I believe of American origin, the severest cases can be returned to bed without appreciable disturbance or annoyance.

* At first six, then four ounces of spirits or brandy a day were imperatively necessary, for which were substituted, after about a week, two pints of XX porter, given one half at dinner, the other at night. An egg, beaten up with an ounce of spirits, was given at 4 a.m.

out and kept for some hours in the hospital exercise-ground on a comfortably-bedded stretcher. The general health continued improved, local pseudo-reparation also progressing slowly. Against the end of the month the stump had, in some degree, consolidated and in part healed up, yet in an ill-looking manner. Along the line of cicatrix were jelly-like grey tubercles, also sinuses with unhealthy and ulcerated orifices, giving vent to some ounces daily of thin, ill-conditioned pus, which, as the stump closed, acquired an increasingly bad odour. Probes could be passed into the sinuses for several inches (the granulations bleeding freely), but could not be brought into contact with bone.

On June 6th, J. K., now able to get about well on his crutches, was sent to the Convalescent Home, where, however, he only remained till the 15th. During this short stay his face became brown and sun-burnt, and his general health seemed in a fair way to become re-established, but the stump had remained unimproved.

After leaving the Home, J. K. now and then came to the hospital as an out-patient, but his attendance was very irregular. He was badly fed at home; this soon told on him. At each succeeding visit his deteriorating condition became more and more patent; flesh was steadily lost; he became again anæmic; had night-sweats, with habitually rapid pulse, ranging usually between 125 and 140—sometimes even higher. Additional sinuses formed at the end of the stump; from these and the old openings a profuse quantity of excessively foetid, thin pus poured out daily. Still, though traversing many of them for some inches, in none could the probe be made reach the diseased bone.

The lad dragged on in this manner, getting daily worse and worse, and when (24th August) at length he returned to the hospital as an in-patient, he had reached a state in which his days seemed numbered. To the foregoing symptoms was now added an established diarrhoea. Bearing in mind, however, the immense recuperative powers manifested on the occasion of the former operation, it was determined to attempt surgical interference again on his behalf. The effort to feed him into a better state not being attended with success, and matters becoming daily more urgent, the operation was proceeded with on the 29th, my colleagues, Mr. Ledwich and Dr. M'Dowell, kindly giving me their able assistance, as also Dr. J. E. Kelly, to whose care the command of the artery was committed. When fully under chloroform, which was given by Dr. J. Shaw, an incision, commenced at a large sinus in the centre of the cicatrix, was carried along it, and then upwards on the outer side of the stump for several inches; the cut extended in depth throughout down to the bone, at the extremity of which were some loose and detached bits. The shaft itself was felt to be necrosed and bare, a director passing up without obstruction between it and the periosteum. The knife was now drawn across the

front of the stump, still cutting down to the bone, till it reached the inner region of the thigh, when the incision was turned upwards at a right angle, and carried to opposite the lesser trochanter. An anterior flap was thus marked out, which, the external cut having been prolonged to well above the trochanter major, was raised, and then the knife drawn through the posterior tissues (the diseased and sinus-burrowed structures being thus left connected with the diseased extremity of the bone and for removal with it), forming another flap somewhat shorter than the anterior one; this, too, was easily separated. The bone, as exposed, proved to be obviously diseased throughout, leaving no alternative open but disarticulation. When the attachments of the capsular muscles were divided, as the stump was abducted to facilitate the opening of the joint, the bone parted at the junction of the shaft with the head,* the latter remaining undisturbed in the articulation, the subsequent division of the capsular ligament and extraction of the epiphysis was a matter of some little delay, for the fragment was infiltrated with pus, and so softened that a sufficient grip was with difficulty secured on it with the forceps. Throughout the operation the artery was admirably commanded; vessels of any magnitude were secured as they were started; there was thus but little blood lost from spouting vessels, though there was a troublesome and free oozing from the deeper surface of the wound. The divided vessels of the ligamentum teres did not require ligature. The surface and recesses of the huge wound were rapidly and thoroughly swabbed over with a forty-grain solution of chloride of zinc, and then its deeper part was tightly packed with half a dozen sponges; these were firmly retained in position during the lad's removal to bed (effected with little or no disturbance by the operation stretcher) by Mr. (now Dr.) S. R. Mason, who, with two other students of the hospital, Messrs. J. Morgan and M. S. Ryan, relieving each other alternately, maintained the pressure uninterruptedly for three hours. At the end of this time the sponges were removed, one by one, and without difficulty, except the last which was deeply imbedded; when saturated with tepid water it was also got away without further bleeding. The flaps were now supported in apposition by broad straps of adhesive plaster, applied in both antero-posterior and circular directions, wide spaces being left between to facilitate the escape of any discharge. A strip of lint, smeared with creasote ointment, laid over the cut, completed the dressing. No sutures were used. For some

* Opposing views were entertained by those present, and it must remain a matter of doubt as to whether this separation took place at the time of the accident, or was subsequent to, and the consequence of, the upspread of the prolonged bone disease. However, the power of locomotion, limited though it was, possessed by the patient immediately after the injury, the absence of deformity, pain, or other indications of *damage* near the hip, as well as the appearance of the bone (albeit not quite reassuring) on section at the time of the first amputation, would seem to point to the latter supposition as the most probable.

time the patient lay almost collapsed; he was very prostrate, cold on the surface, pulseless at the wrist, the pupils being dilated almost to the obliteration of the iris. Before removal from the table an enema, containing whiskey and aromatic spirit of ammonia, with 30 drops of Battley, was given. In bed—placed between heated blankets and surrounded by hot jars—he rallied and got warm, but was exceedingly restless, and complained much of pain; these five-and-twenty drop doses of Battley, given every half hour, did not relieve till he had taken four doses; the interval was then increased to one and subsequently two hours.

Shortly after the closing of the stump the patient's state again became such as to awaken the keenest anxiety; he was suddenly seized with severe pain and cramps in the belly; then some rapidly-recurring motions from the bowels took place, the dejections being black and horribly foetid. The stomach, too, was freely sick. Mustard sinapisms were promptly applied over the region of the heart, to the thigh and calf of the remaining limb, whilst relays of hot turpentine stupes were kept on the belly and thorax, carbonate of ammonia being often held to the nose, and the lips wiped with a sponge dipped in brandy. Anything given by the mouth was at once rejected. Little by little the lad pulled up again from his faint and exhausted condition. At 4 p.m., when the violence of the attack had somewhat subsided, he expressed a desire to urinate, but on this occasion could not do so unaided; a catheter was passed, and drew off eight ounces of normal-looking urine. Forty drops of Battley were given, and he soon fell asleep. Matters now mended. At 7 p.m. (the opiate, thirty drops, had been once repeated) improvement was obvious; the pupils had resumed their natural appearance; the aspect of the face was good, as was also the character of the voice. Several ounces of healthy urine were now passed without the catheter. At 11 o'clock he was still better, and disposed for slumber. An opium pill was given.* A good night was passed, patient resting well, and requiring only two opium pills. At 4 and 7 o'clock a.m. a little iced brandy was also taken. The stomach was slightly sick twice; only a single motion from the bowels occurred; urine passed abundantly. During the day (30th) he did not continue so well, becoming in the afternoon flushed, and complaining of a "fluttering sinking" sensation about the heart. Pulse 140, feeble and compressible; the stomach, too, again became irritable, a state much aggravated by the extreme thirst, which, in spite of all remonstrance, was too freely yielded to. An abundant discharge of ill-smelling, colourless exudation from the stump saturated several sheets. A blister, with a grain of morphia lightly sprinkled on the surface, was applied under the ensiform cartilage. A good night was subsequently passed, the patient awakening on the

* In the half day succeeding the operation, 240 drops Battley and 8 ounces brandy were used.

81st with a settled stomach and pressing appetite, which he promptly turned to good account, consuming the major part of a small chicken at an early meal. Pills, containing quinine and reduced iron, were prescribed to be taken every third hour.

The future progress of this case to recovery can be briefly summarised; the pulse soon began to come down, and the patient to regain flesh and health. When the weather permitted, he was daily carried out, and kept some hours in the hospital exercise-ground, on a bedded stretcher. For some time there was a tendency to bed-sore, this was successfully met by the use of a water cushion, and occasionally painting the sacral integuments with a sixty-grain solution of nitrate of silver. The bowels remained unmoved since the date of the last report till the 5th of September, when they were favourably acted on by a turpentine injection. The stump, for a time, continued in an indolent, unhealthy state; every attention was, throughout, given to keeping it duly supported by adhesive straps and bandages, so arranged as to leave free exit for the abundant discharge. The same stimulant dressings quoted as agreeing best with it on the former occasion, were on this one also found to be of most service.

Against the 23rd of this month (September), J. K. was again able to make use of his crutches, the stump being apparently nearly healed, though, owing to the persistence of some troublesome sinuses, which proved rebellious to every treatment, it was not till the end of the ensuing month that he was allowed to leave the hospital; even then, one sinus, about the centre of the cicatrix, yet remained unclosed—the amount of discharge, however, being insignificant, and the stump, in other respects, a good one. The general health had now become all that could be desired. Subsequent to leaving it, the lad occasionally came to the hospital as an extern patient to have the sinus injected; this closed, but very tardily, and was not entirely and satisfactorily healed until the commencement of the present year.

The second case of amputation through the hip-joint* occurred in the

* Coxofemoral disarticulation has been a remarkably infrequent operation in Ireland; in addition to the two examples now reported, it seems to have been had recourse to here in but two other instances—in both these cases the patients died, one on the fifth, the other on the sixth day. The first is reported at length, by the late Mr. Carmichael, in the third volume of the Transactions of the Association of Fellows and Licentiates of the King and Queen's College of Physicians in Ireland, page 158; the second, by Mr. Butcher, in the Dublin Quarterly Journal of Medical Science, Vol. 42, page 297. The cases in which this operation is indicated are not, by any means, of frequent occurrence; in my own practice (leaving out of question certain cases of advanced hip disease, in which disarticulation seemed to afford the only chance of life, but where, on consultation, due support was not obtained for its performance, and the proposed mode of relief had to be abandoned, each individual subsequently dying miserably); but one other case has happened where this step seemed desirable; it was in the person of a quarryman from the neighbourhood of

person of a delicate lad (No. 1663), who was admitted into the hospital, September 29th, 1874, and for whom I am indebted to a former pupil of both the Hospital and Ledwich School of Medicine. His left leg had been bad "off and on" for upwards of ten years; it had become flexed permanently on the thigh, and seemed to be ankylosed in its faulty position; the region of the knee being enlarged, painful, and showing marks around the joint of extensive former cupping. Several cicatrices along the thigh indicated where pieces of bone had, from time to time, been discharged from. One large scar, the remains of a former bed-sore, showed over the great trochanter. In addition were several running sinuses, the most superior being placed about four inches below the level of the great trochanter, along the front and inside of the thigh; these all led down to diseased bone, detected by the probe at once. From long continued disuse and confinement to bed the femur had become partially flexed on the abdomen and carried across the front of the other thigh. On manipulation of the limb only the most restricted movements could be imparted to the hip-joint. The patient's generally delicate and worn appearance bore witness to his prolonged and severe sufferings. The liver proved to be slightly enlarged, the viscera otherwise being healthy; renal secretion was free from albumen; appetite usually good. Though much and constant suffering existed in the limb, it was noted that the pulse never exceeded 86; it stood almost uniformly at this figure.

For some days a preliminary tonic treatment was followed out. The operation being proceeded with on October 10th, happily my colleague, Dr. Mason, was able to administer chloroform; it had to be given with the utmost care and caution, being badly borne, the patient speedily becoming depressed, and facial aspect bad. Matters improved somewhat after the throwing-up of a stimulant enema. Even when under the influence of an anæsthetic, so dense was the tension of the structures about the hip that the limb could not be extended, and the operation had to be gone on with whilst it was perched up in the air.* The patient was placed on the table, well drawn down, so that his buttocks projected beyond the end. Standing between his thighs, a free incision, down to the bone, was first made over the great trochanter, so as to admit of satisfactory exploration of the state of the femur in this locality; it was found to be here so extensively diseased that dis-

Portmadoc, North Wales, who was sent to Mercer's Hospital some years ago by a distinguished surgeon (formerly himself, I believe, a pupil of the hospital) of that locality, for a huge enchondromatous growth involving the femur high up. A favourable prognosis seemed specially indicated; but, at the last moment, the patient declined the operation. The sequel of the case I have not been able to learn.

* Before being brought into the operation theatre, the extremity had been kept for some time elevated, and subsequently was firmly bandaged.

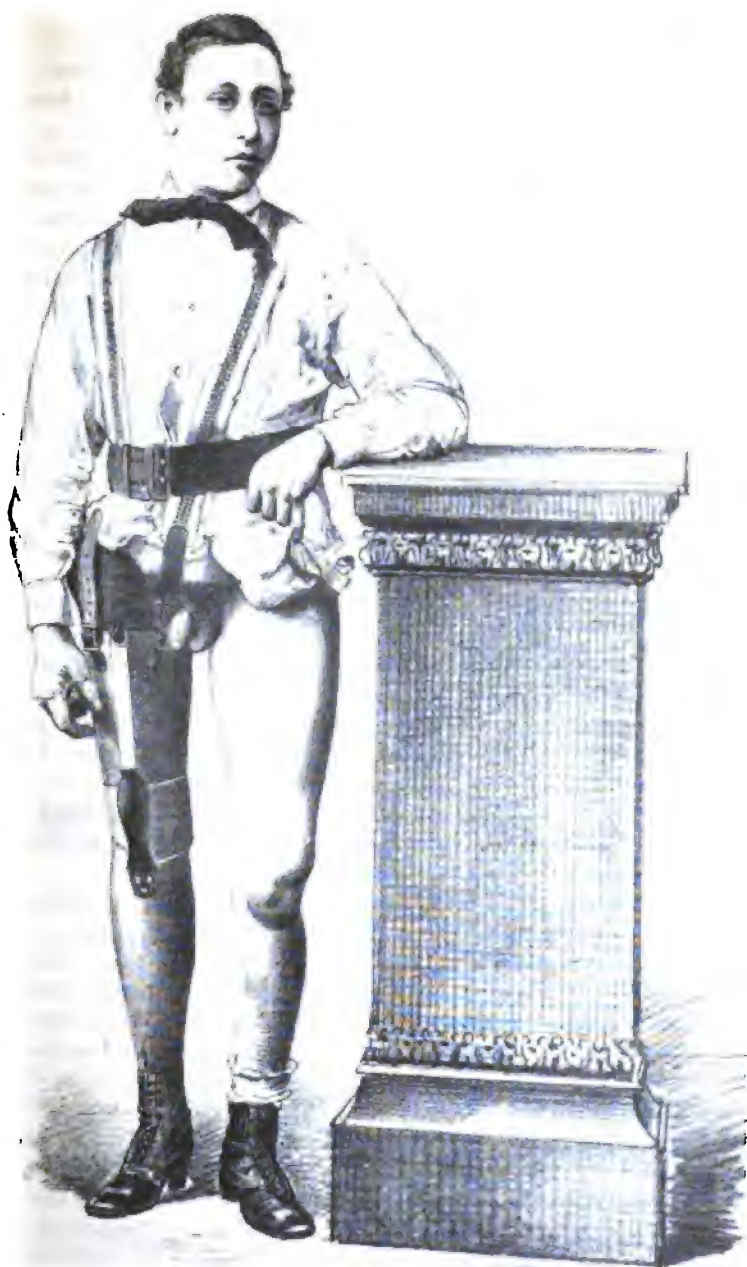
articulation was at once determined on. In consequence of the constrained and awkward position of the limb already indicated, the formation of the anterior flap by transfixion was impracticable—hence, utilising the already existing exploratory incision (which had been made in suitable direction in view of the necessity of amputating through the joint), a large one of somewhat rectangular form was rapidly mapped out and thrown up, cutting from skin to bone; it unavoidably included one of the sinuses. Several bleeding vessels were temporarily secured by Langenbeck's hæmostatic forceps, and then successively tied, so that but little blood was lost. The outline of the posterior flap, of ample dimensions, was next cut through the skin, the limb being then forcibly abducted, the capsular ligament was opened on the inner side, and disarticulation easily effected, when the long knife provided for hip amputations was passed down behind the head of the bone, and the soft parts, rendered tense by moderate traction, were by it divided obliquely, so as to be in uniformity with the already-made tegumental section. The formation of a perfectly shapely flap of suitable size was thus insured, and, by the provision made for retraction of the skin previous to the division of the muscular structures, redundancy of these was also guarded against. As the catlin cut its way out, a considerable portion of the bulk of the soft parts was caught and compressed between the thumb and fingers of the left hand, and some of the vessels thus transiently secured, whilst others were caught up in as many Langenbeck's forceps. Though over a dozen vessels, one of them being in the ligamentum teres, in all required to be here ligatured (carbolicised catgut used), the amount of blood lost was astonishingly little; altogether during the entire operation the quantity shed was under eight ounces. The artery was admirably commanded throughout by Professor Morgan—my other colleagues, Mr. Ledwich and Dr. McDowell, together with Dr. Kelly, being also present and kindly assisting. The limb* was supported and manœuvred by Mr. Williams, resident pupil.

The patient—much depressed, and with shabby pulse, but, nevertheless, having borne the operation better than at one period seemed probable—was promptly conveyed to a comfortable warm bed, when forty drops of tincture of opium, with two ounces of whiskey, were thrown up the rectum, a little burnt brandy being given by the mouth as well. The stump was placed, duly supported by pillows and pads, gentle pressure

* Its subsequent examination revealed the bone to be diseased throughout. When boiled, it constituted an unusually good specimen of necrosis, here and there portions of the old dead bones being visible through the involucrum. The head of the femur was also diseased and softened, the cartilage of incrustation being in parts separated. At the lower end the patella, greatly atrophied, was soldered immovably to the external condyle, the articular surface of the tibia also being partially ossified in the flexed position, and displaced somewhat backwards.

by the hand on front of it being employed to restrain motion. Half an hour after being placed in bed, the stomach threatening to become sick, a hypodermic injection of morphia was given to relieve pain. This afforded considerable relief, and the lad apparently did well enough till about three and a-half hours after the operation, when the bowels were suddenly and profusely acted on. Immediately afterwards bleeding began. This was observed, and stopped on the instant, by tying with a fine catgut ligature a large slit vein before a drachm of blood had been lost. A couple of hours later the flaps, which had become "glazed," were brought together by some points of catgut suture, and duly supported by broad straps of adhesive plaster, the upper and outer angle being left freely open for the escape of the exudation fluids. A few ounces of urine were drawn off by the catheter. Shortly before the action of the bowels the stomach sickened, and it continued to be constantly bad—everything, even teaspoonfuls of iced champagne, being rejected. Notwithstanding these unfavourable concomitants, the patient had gradually become warm, and the character of his pulse had steadily improved. By midnight he seemed to have rallied still further. The amendment, however, was only transitory. Though some snatches of sleep were obtained through the night, marked sinking occurred towards early morning. Nutritive and stimulant enemata given at intervals through the night, were continued regularly, and retained, the stomach still remaining very irritable. The catheter passed, as the desire was felt, about every six hours, drew off a fair quantity of urine. During the forenoon another attempted rally took place, the improvement continuing till 6 p.m., when sinking suddenly set in again, and death ensued at 9 p.m., thirty-five hours after the operation. No autopsy could be obtained.

Of the accompanying lithographs, Plate No. I conveys better than any verbal description the appearance of the stump after complete recovery. The photograph from which it is copied was taken some months after the parts had firmly healed, and the lad's health become perfectly re-established. As will also be seen by this and the accompanying lithographic plates, he had grown quite stout. J. K. is, I understand, at present doing well as a tin-smith, in the employment of the Great Southern and Western Railway. Messrs. M'Adam and Corcoran, of Bachelor's-walk, in this city, succeeded in making an artificial limb, to meet the necessities of the case—Plates II. and III., showing it in front and back aspects, demonstrate its principle of construction and mode of application quite clearly. I have seen the lad walking on it (which a very brief practice enabled him to do) for short distances, without using either crutch or stick, and with good command over its movements. The fabricants, who inform me that the gross weight of the apparatus and retentive connexions is only five pounds, deserve considerable credit

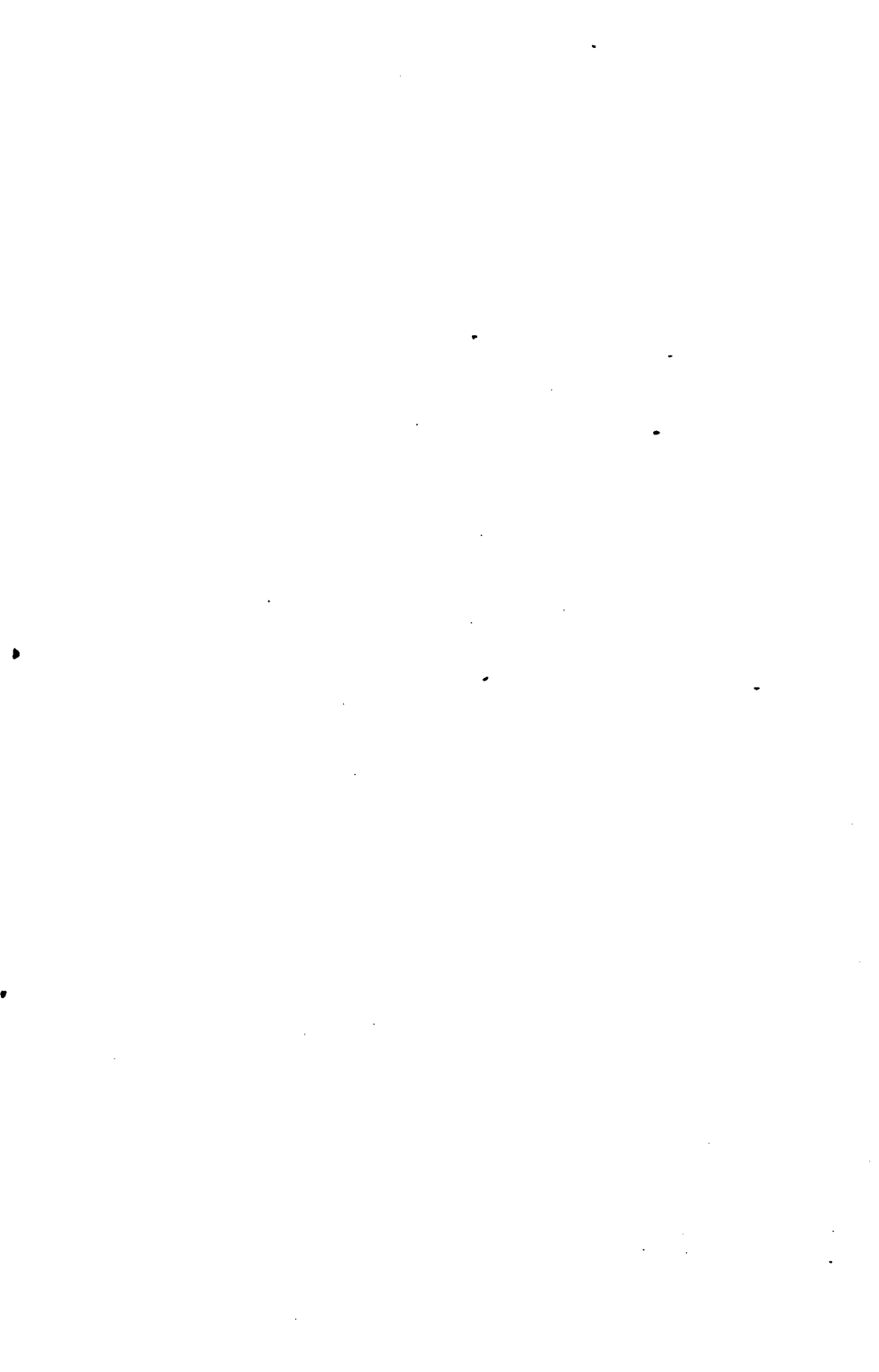


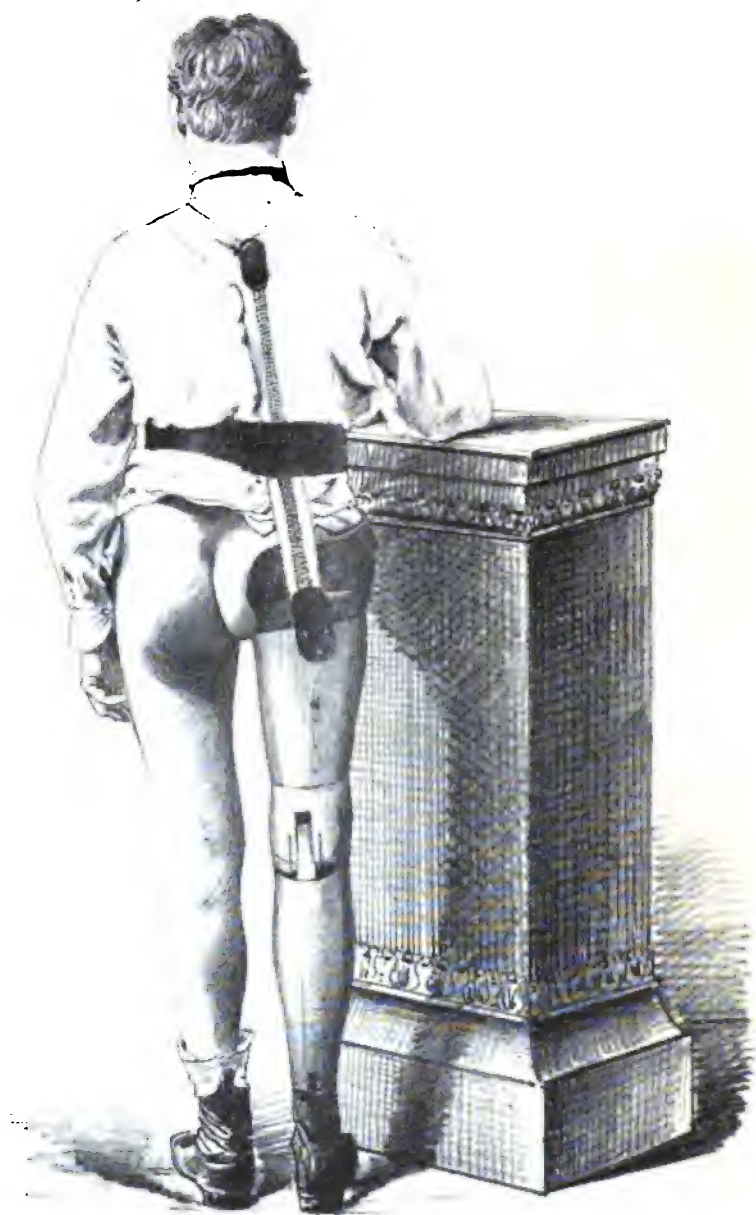
MR. H. S. O'GRADY.
CASES OF AMPUTATION THROUGH HIP-JOINT.

*With * by John Falconer, Dublin*

From a Photo. by G. Robinson & Sons



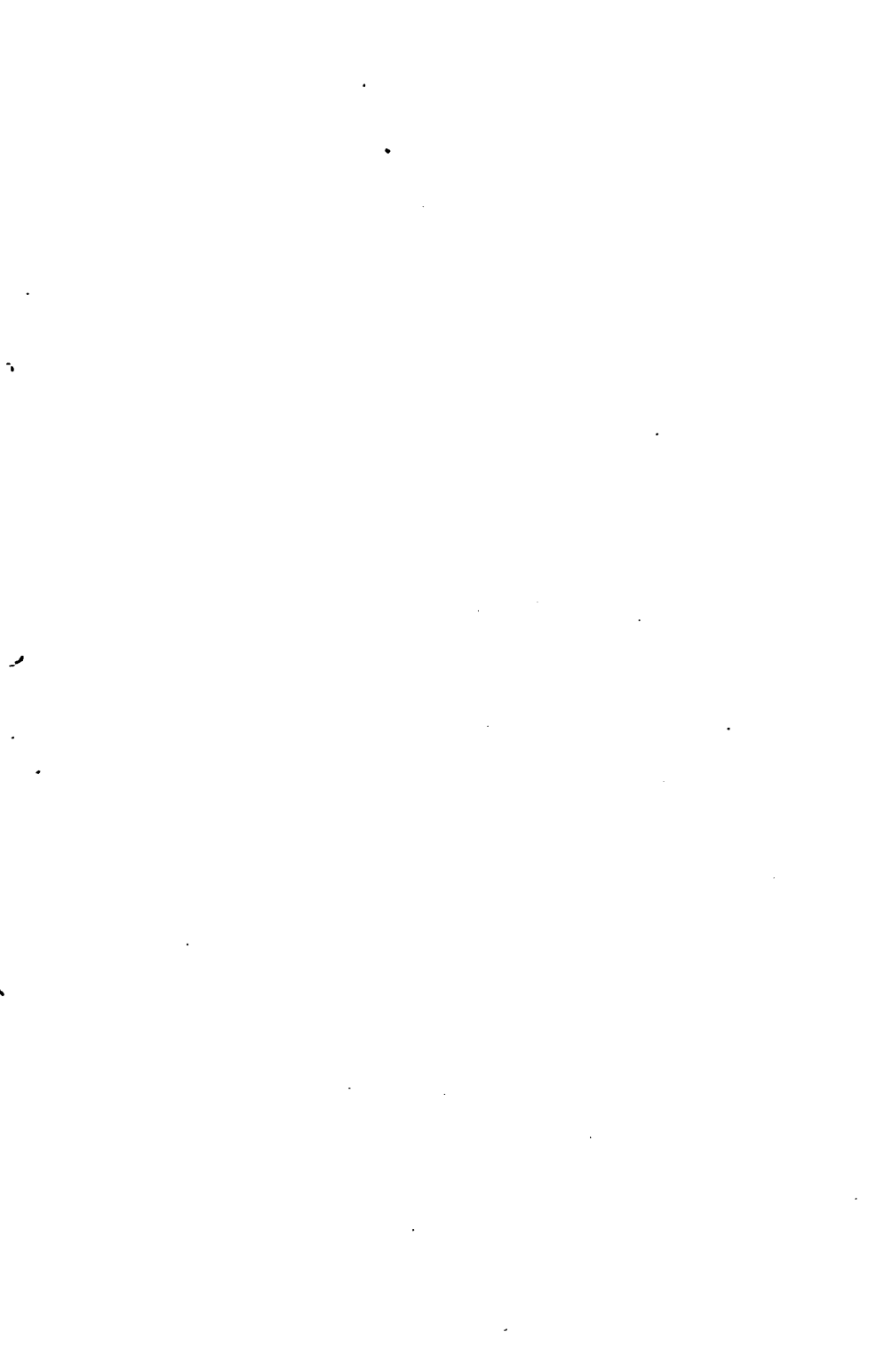




MR. E. O. GRADY.
CASES OF AMPUTATION THROUGH HIP-JOINT.

2nd Ed. by John Palmer, Dublin.

From a Photo. by G. Robinson & Sons.





MR. E. S. O'GRADY,
CASES OF AMPUTATION THROUGH HIP JOINT.

Drawn by John Falconer, Dublin.

From a photo by G. Robertson & Sons

for having been the first and, as yet, the only makers of an artificial limb for hip-joint amputation in this country. Doubtless, should opportunities afford them still more extended experience, it may be expected they will improve on their adaptations. It may be added that the flexed position shown in Plate No. IV. was selected by the young man himself, and that he could take it and rise from it with fair facility.

Cases from Practice. By ULYSSES FITZMAURICE, Licentiate of the King and Queen's College of Physicians, Ireland; Licentiate of the Royal College of Surgeons, Ireland, &c.; Physician to the Listowel Dispensary, County Kerry.

Case of Placenta Prævia and Hand-presentation with most alarming Hæmorrhage; Recovery.

I was called upon last July, in a great hurry, to visit Mrs. D., a woman aged about thirty-four years. The messenger stated that she had a flooding, but that the midwife could not make sure as to whether she was in labour or not. I hastened to visit her, and on my arrival found her lying in a deluge of blood, expressing herself dying, and praying to me to save her life. The midwife, who is very generally employed, felt completely puzzled, as she could not find any part of the child presenting. On placing my hand on the abdomen, I found it as large as it should be in the last stage of pregnancy, but the abdominal tumour was not uniform, but was irregular. I immediately came to the conclusion that there was a malpresentation. I at once made the usual vaginal examination, and found the placenta over the os, and, on somewhat firm pressure upwards, with the index finger, did ascertain that there was also hand-presentation. The hæmorrhage during this time was most alarming—so much so that I thought, with all certainty, that nature should surely yield to it. Without further deliberation—for, indeed, there was no time for such—I introduced the hand through the placenta into the uterus, with little difficulty got hold of the feet, brought them down with a waving rotatory motion, and completed the delivery quickly. The woman was thus delivered of a fine, full-grown living child. The placenta was expelled with very little manipulation, after a few minutes all hæmorrhage ceased, and the case went on naturally and well afterwards.

St. Vitus's Dance, occurring in a boy aged six years, from the presence of Worms in the Intestinal Canal.

SOME eight months since I was called upon to visit a boy, named John Hennessy, aged about six years. His parents and neighbours were much alarmed at his state, supposing he was labouring under some form of insanity. On my visit I found him seated on a chair, presenting a wild

and frightened appearance—his eyes projecting from their sockets, rolling in all directions, and much bloodshot. A general and continuous agitation pervaded his voluntary muscles, and he had all the appearance of an inanimate body moving on wires. He was extremely emaciated; but, with all, he had not a sick look. On being interrogated he tried to reply, but could not articulate distinctly, and smiled when about to make the effort. The Schneiderian membrane was red and swollen, pulse was natural, his skin cool, and his tongue moist and clean. It occurred to me at once that this peculiar train of irregular muscular movements was owing to the presence of worms in the intestinal canal—a diagnosis which was verified by the results of the case. I ordered for him santonin at bed-hour, followed by castor-oil in the morning after, the effect of which was to bring away many worms (the *Ascaris Lumbricoides*). This treatment was continued for some days with a similar effect; and, as the worms were being expelled, the muscular system became restored to its normal state, and the boy quickly recovered health and strength.

THERAPEUTIC VALUE OF GELSEMINUM SEMPERVIRENS.

THE therapeutic experiments on gelseminum sempervirens, as communicated by Dr. Berger in Nos. 43 and 44 of the *Centralblatt*, and their failure, have induced Dr. Carl Hertzka to publish (*Centralblatt*, No. 47) the following case, which has lately been under treatment:—A pianoplayer, in consequence of his occupation, experienced fatigue, wandering pains and weakness in both arms, particularly in the right, on account of its being more used in playing. These symptoms caused him to give up the instrument for the last two years. In fact he suffered from a paralytic form of piano-players' cramp. The cold-water treatment, galvanisation along the spine, employed for a year, procured for him only slight relief. After the patient had taken for three weeks the tincture of the gelseminum sempervirens (as supplied by Merck, of Darmstadt) in eight-drop doses, the symptoms vanished without being followed by any other unpleasant consequences. Without desiring to give any undue weight to a single observation, it still appeared probable to Dr. Hertzka that the favourable results previously communicated to the *Centralblatt* by Dr. Jurasz^a could not be founded upon mere chance, but that they might have been obtained by similar small doses of the same remedy. Dr. Senator, remarking on the above case, says that he was empowered by Prof. Westphal to state that his employment, in two cases of trigeminal neuralgia, of the tincture gelseminum in full doses was entirely without result.

J. M. F.

^a See *Dubl. Jour. of Med. Sci.* Nov., 1875. P. 482.

SANITARY AND METEOROLOGICAL NOTES.

Compiled by J. W. MOORE, M.D., F.K.Q.C.P.

VITAL STATISTICS

*Of Eight Large Towns in Ireland, for Four Weeks ending Saturday,
December 4th, 1875.*

Towns	Population in 1871	Births Registered	Deaths Registered	DEATHS FROM ZYMOTIC DISEASES							Annual Rate of Mortality per 1,000 Inhabitants
				Small-pox	Measles	Scarlet Fever	Diphtheria	Whooping Cough	Fever	Diarrhoea	
Dublin, -	314,666	661	683	—	34	12	3	20	28	19	28.2
Belfast, -	182,082	483	367	3	5	19	2	5	11	18	26.2
Cork, -	91,965	152	232	—	10	14	—	8	3	4	32.8
Limerick, -	44,209	94	88	—	—	—	—	1	6	3	25.9
Derry, -	30,884	46	57	—	—	12	—	2	—	—	24.0
Waterford, -	30,626	72	54	—	—	1	—	—	3	—	22.9
Galway, -	19,692	23	22	—	—	—	—	—	—	—	14.5
Sligo, -	17,285	21	30	—	—	3	—	—	—	—	22.5

Remarks.

The rate of mortality was very high in Cork and Dublin; high in Belfast and Limerick; and moderate or low in the remaining towns. In London it was 23.9 per 1,000 annually, in Edinburgh 26.0, and in Glasgow 27.0. The deaths from zymotic diseases in Dublin amounted to 149, of which so many as 137 took place within the municipal boundary. Measles, fever, whooping-cough, and diarrhoea were fatal. Scarletina was severe in Belfast, Derry, Cork, and Sligo during the period. Measles prevailed in Cork. The inclement weather continued to tell unfavourably on the death-rate from respiratory affections. In Dublin they caused 133 deaths (including 93 from bronchitis and 20 from pneumonia).

METEOROLOGY.

*Abstract of Observations made at Dublin, Lat. 53° 20' N., Long. 6° 15' W.,
for Month of November, 1875.*

Mean Height of Barometer, - - -	29·840 Inches.
Maximal Height of Barometer (9 a.m. on 23rd), -	30·379 „
Minimal Height of Barometer (5 a.m. on 14th),	28·900 „
Mean Dry-bulb Temperature, - - -	43·7°
Mean Wet-bulb Temperature, - - -	41·6°
Mean Dew-point Temperature, - - -	39·1°
Mean Humidity, - - -	83·7 per cent.
Highest Temperature in Shade (on 3rd), -	60·3°
Lowest Temperature in Shade (on 9th), -	30·9°
Lowest Temperature on Grass (Radiation) (on 9th),	25·3°
Mean Amount of Cloud, - - -	72 per cent.
Rainfall (on 19 days), - - -	3·051 Inches.
General Direction of Wind, - - -	W. and E.

Remarks.

This month may as regards weather be divided into two distinct periods, which contrast very remarkably with each other. Up to the 18th numerous areas of barometrical depression—many of them *double* in character (*i.e.*, depressions within depressions)—traversed the west of Europe, moving from S.W. to N.E., or W. to E., or N.W. to S.E. The weather accordingly was very changeable, with frequent rains and marked fluctuations of temperature. The cyclonic gale of the 13th–14th was ushered in by a difference of temperature amounting to 36° at 8 a.m. of the 13th—between Wick (21°) and Scilly (57°). On the 19th a cyclone travelled from N.W. to S.E. down the east coast of Great Britain. It left in its train gradients for northerly winds. An area of high barometrical pressure now became developed in the N. and N.W., and persisted to the close of the month. This system caused easterly winds with cold, bleak weather, and very frequent hail-showers. In Dublin hail fell on nine out of the last ten days, and from the 24th the neighbouring mountains remained deeply covered with snow.

PERISCOPE.

Edited by G. F. DUFFEY, M.D., F.K.Q.C.P.

ADMINISTRATION OF COD-LIVER OIL.

DR. MANN, of New York, says that the objectionable taste of the oil may be overcome by the use of the following formula. It also has the advantage of combining phosphorus and cod-liver oil in a pleasant emulsion. The use of the phosphoric acid will often overcome the nervous exhaustion and depression under which phthical patients are labouring, and at the same time assist the appetite and digestion :

R. Yolk of three eggs,			
Cod-liver oil,	.	.	.
Sherry,	.	.	.
Dilute Phosphoric acid,	.	.	.
Simple Syrup,	.	.	.
Bitter almond water,*	.	.	.
Rectified Spirits of Wine,	.	.	.
			3viiij ;
			3iv ;
			3i ;
			3i ;
			3viiij ;
			3i.
M.			

Rub the eggs up in a mortar, adding the oil spoonful by spoonful. Last of all add the phosphoric acid.—*N. Y. Med. Record*, September 18.

“STYPTIC COTTON” IN THE TREATMENT OF OTORRHOEA.

DR. MORTON reports (*Philadelphia Medical Times*, Oct. 2) excellent results from the use of this preparation in a very large number of cases of otorrhœa. It possesses the advantage of being an astringent, and at the same time an absorbing dressing which can be kept constantly in the canal. The styptic cotton is prepared as follows:—Take a roll of fine jeweller’s cotton and thoroughly saturate it in a mixture of Monsel’s solution of the subsulphate of iron,^b diluted with two parts of water ; let it stand in the mixture for forty-eight hours ; press the liquid out, and dry in a warm room, then pick or card out in fine shreds. It is better to make in small quantities, as there seems to be some change in the cotton when kept for any length of time, it losing its texture and breaking up in a fine powder when handled, thus rendering it unfit for application.

* *Aqua Amygdalæ Amara* (*U. S. Pharmacopœia*).—The formula of this preparation is the following :—“Take of oil of bitter almonds, *sixteen minims* ; carbonate of magnesia, *sixty grains* ; water, *two pints*. Rub the oil, first with the carbonate of magnesia, then with the water, gradually added, and filter through paper.”

^b See *Dublin Journal of Medical Science*. November, 1875. P. 450.

Before using the cotton, the ear should each time be thoroughly cleansed with tepid water, and the canal then wiped out with common cotton. A plug of the styptic cotton, at least the length and width of the canal, should then be carried in until the plug rests close to, but not in contact with the drum. The first few plugs should be changed daily, then, according to the lessening of the discharge, not so frequently.

ARGYRIA.

B. RIEMER (*Archiv. d. Heilkunde*) has published a case of a man aged forty-three, who suffered from tabes, took during two years 34·032 grains of the nitrate of silver in pill form, and in consequence of this his entire skin, but more especially that of the face, became of a greyish hue. He was attacked with some affection of the lungs, and speedily died, and at the *post mortem* examination, in portions of nearly all the internal organs, and particularly where connective tissue was present in any considerable amount, the characteristic coloration of silver was found. The hue of the skin was strongly pronounced, and the tissue was subjected to careful examination. Silver was found deposited in numerous granules in the connective tissue of the corium, and especially in the vicinity of the smaller blood-vessels and in the walls of the convoluted portions of the sweat-glands. The epithelial cells in every layer were entirely free from the deposit, and also the lymphatic vessels; indeed, it was never in or between cells nor between the cells of the endothelium of the blood-vessels, but in their external coat, and then in the homogeneous membrane belonging to the connective tissue. Riemer, therefore, assumes that the silver is reduced and deposited in a purely mechanical way from the blood-vessels, particularly in the secretory regions of the skin, but that it is not able to pass the epidermal layer, and, therefore, lies below it.—*Philadelphia Medical Times*.

EXPERIMENTS IN HÆMOSTASIS.

KÜLSCHER (in two memoirs in the *Arch. d. Heilk.*) has given the results of a series of experiments which he has lately undertaken—chiefly performed with frogs—with the view of determining:—1. The real merits of reputed hæmostatics; 2. The relative stability of their action. The method he adopted for examining the second point consists of injecting oil into the vessels through a wound made in the heart, and comparing two peripheric wounds made at the same distance from the heart, the hæmorrhage from which has been arrested by two different agents. Külischer recognises the perchloride of iron and acetate of lead as the only two real hæmostatics deserving the name; the results produced in his hands by others (sulphate of zinc, ergotine, kino, &c.) being absolutely *nil*. Of these, the first he found by far the most efficient—the effects of a solution of 10°/o of perchloride of iron being equivalent to those of a

30% solution of the lead salt. The following are amongst the most important of the results already noted:—A solution of 30% of perchloride of iron applied for a minute and a half produced more stable hæmostasis than any other solution, no matter how long the period. Of two similar wounds, which have bled freely, that which commenced to bleed soonest closes the least rapidly, and the least solidly. If imperfect compression be made upon one of two similar wounds, it will increase the hæmorrhage in the other, when this last has been made at the moment of cessation of the pressure. Incomplete compression will cause a more abundant consecutive hæmorrhage in the wound compressed than in that not so compressed; from which may be drawn the conclusion that the principle obstacle to hæmorrhage is not produced in the place compressed. Where compression has checked hæmorrhage it is re-established slowly, and reaches its maximum at the end of three minutes. The minimum duration of pressure efficient to completely arrest hæmorrhage in these experiments has been six hours.—*Rev. d. Sci. Méd.*, Juillet, 1875.

T. E. L.

SORE NIPPLES.

DR. FLEISCHMANN says that in a large obstetric practice he has *never* had a bad case of sore nipples. For many years, when the nipples became slightly sore, he at once applied zinc shields. Of late years, instead of allowing the zinc to combine with the lactic acid of the milk, he has applied a preparation of sulphate of zinc and lactic acid (in fact lactate of zinc) and glycerine with starch between the times of suckling. This treatment, he asserts, is unfailing, and not only a "prophylactic," but a *specific* in the true sense of the term.—*N. Y. Med. Rec.*

A NEW METHOD OF CAUTERISATION.

A VERY effective caustic action is obtained by nitrate of silver aided by metallic zinc in the manner first proposed by Professor Conradi. The method and its action are thus explained:—When a portion of the integument is touched with a strong solution or the pure stick of nitrate of silver, the first effect is to produce a whitish or greyish discoloration, the whitish colour being due to the formation of albuminate and chloride of silver. Gradually the spot assumes a darker colour, becoming brown or chestnut-coloured, and finally quite black. The nitrate of silver is decomposed by the organic matter, and is after a time reduced to metallic silver, which uniting with the tissue causes the black colour. If, while the reduction is in progress, two silver electrodes of a galvanometer are brought into contact with the spot to which the nitrate of silver has been applied, the passage of a slight electric current will manifest itself, the needle of the battery showing a deviation say of ten degrees. But a much more powerful action may be induced if metallic zinc is brought

in contact with the spot after being touched with the nitrate of silver. The reduction of the silver, instead of taking a considerable length of time, is then affected immediately. If one of the electrodes of the galvanometer have a small rod of metallic zinc attached to it, as soon as the spot to which the nitrate of silver has been applied is touched with the zinc rod of the electrode, the black colour is produced instantaneously, and the needle of the galvanometer shows a deviation of 45 degrees. The nitrate of silver thus aided by the zinc proves to be a very effective caustic.

In an article in the *Gazette Médical de Paris* (July 31), Dr. Jules Charon states that he has found this method peculiarly serviceable in the treatment of cases of condylomata lata occurring in the neighbourhood of the mucous orifices, particularly of the genitals, in syphilitic subjects.—*New York Medical Record*.

OSSIFICATION OF THE MUSCLES.

DR. GIBNEY presented at a recent meeting of the New York Pathological Society, a girl, aged ten, with ossification of the muscles. She had had an attack of diphtheria the previous "fall," and some months later her mother noticed that she stooped forward and could not maintain herself in an erect position. Some time after this a hard tumour appeared on her back below the scapula. When Dr. Gibney presented her to the Society, the latissimus dorsi showed signs of ossification. The erector spinæ and scaleni muscles were also involved. The hard tumour found near the scapula was evidently an ossified muscle. The case is of great interest from its rarity, and also from the fact that it shows a tendency to the progressive form.—*New York Medical Journal*, November.

SALICYLIC ACID.

ACCORDING to Feser (*Arch. f. Thierheilk.*, 1, 53-62), this acid destroys all bad smells; the same result is obtained by the salicylate of soda, but to a much less marked degree. Meat into which salicylic acid has been rubbed shows after some weeks a rich mould, but is free from all foul smell. The matter which flows from putrid flesh, when mixed with double its volume of a solution of salicylic acid (about 0.4 per cent.), is rendered innocuous even where injected subcutaneously. The effect of the acid upon the chemical process of fermentation is less. The acid is readily absorbed and appears in all the secretions; in the milk, however, it cannot be detected. The faecal discharges, even after full doses, are free from salicylic acid.—*Centralblatt*, No. 47, Oct. 30.

J. M. F.

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PART I.

ORIGINAL COMMUNICATIONS.

ART. IV.—*On a Form of Insanity which may be termed Toxiphobia.*

By CHARLES A. CAMERON, M.D.; Fellow and Professor of Chemistry and Hygiene, Royal College of Surgeons in Ireland; Medical Officer of Health and Analyst for Dublin; Government Analyst in Criminal Cases.

FROM time to time persons of various ranks in life consult me in cases of supposed, or rather assumed, poisoning, of which they are, as they assert, the victims. Being public analyst for several large towns and many counties, my name has become known to the lower classes in those places, and this accounts for the fact that amongst my *clientiæ* are labourers, artizans, &c. In 1860 I commenced to keep a record of these cases, and I find that (excluding *bonâ fide* instances of poisoning) they number sixty-three. This is rather a large number, and shows that many persons believe that attempts are being made to get rid of them by poison. Each of the sixty-three persons to whom I refer was under the impression that some person or persons were endeavouring to poison, or *philter*, him or her, as the case might be; but after careful inquiry and consideration, I came to the conclusion that each of these persons was the victim of a delusion. Of course, persons occasionally consult me who have reasonable ground for suspecting the attempted, or actual, administration of poison, but I do not include such cases as

those amongst the sixty-three above referred to. I propose to apply the term toxiphobia to a species of monomania which is by no means rare, and those labouring under which believe that persistent attempts are being made to poison them. Of the sixty-three toxiphobiacs, only two were obviously insane; the others were only under one delusion—the apprehension of being poisoned. The following is a rough classification of the sixty-one cases (those of the complete lunatics being excluded):—

Eight men imagined that women were administering love-potions to them (no woman suffered under a similar delusion); twelve men felt certain that their wives were trying to get rid of them by poison; nine women laboured under a similar delusion with respect to their husbands; three female servants thought that fellow-domestics were attempting their lives; two men-servants had a similar suspicion; one man and four women believed that members of their respective families were endeavouring to poison them; two persons stated that relatives who were possessed of property were poisoned by persons who sought to get possession of it; in eight cases the toxiphobiacs asserted that the persons with whom they lived, or lodged, were attempting to poison them, in order to acquire possession of their effects; a petty sessions clerk thought that the disappointed candidates for the office which he held were endeavouring to poison him in revenge; a gentleman believed that an unsuccessful rival in a love affair had bribed the servants of the former to poison him; the wife of a labourer in a gas-works insisted that a female of her husband's acquaintance sought to poison her, in order that she might get possession of the complainant's husband; a person who was supposed to be an important witness for the plaintiff in a long-pending Chancery suit lived in continual apprehension of being poisoned by emissaries of the defendant—he kept perpetually changing his lodgings, cooked his own food, would not use milk or other articles into which poison could be readily introduced, but, nevertheless, plied his business—that of a solicitor's clerk—intelligently and creditably, as I was informed. In the other cases I failed to learn the supposed motives of the imaginary poisoners; but still they were, undoubtedly, cases in which there were no real grounds for believing in the attempted administration of poison.

In all these (sixty-one) cases the toxiphobiacs, so far as I could discover, were perfectly sane upon all points except the one. One was a person of title, several belonged to the professions (one being

a physician), and many were of the lowest rank in life. The wife of a barrister believed that her husband was anxious to get rid of her, in order to marry a younger woman. She asserted that he was in the habit of pressing her to drink wine (which always had a peculiar flavour), which she believed contained a slow poison, but in which I could not detect either a peculiar flavour or poisonous matter. For many years this lady had entertained this suspicion, but had never mentioned it, she said, to anyone except myself. I was acquainted with some of her friends, and it appears that no one—not even her husband—knew she was a monomaniac. Another woman, who suspected that her husband was slowly poisoning her, induced her relatives, by false representations (one of which was that she had submitted food to me which I pronounced to have poison in it), to share her opinion, and a separation was the result. Subsequent events proved that the husband had no such intention; but though the toxiphobiac's relatives recanted their opinion of his conduct, she did not, and refused to return to him. This lady was clever, agreeable, and, on every point save the one, apparently perfectly sane.

The petty sessions clerk already referred to had some whimsical notions relative to the plans which his supposed attempted poisoners adopted, in order, to use his own words, to "get the poison into" him. He brought me a night-cap and night-shirt, which, he said, were charged with some subtle poison, for when he put them on they made his "skin creep," and produced a pain resembling the "sting of nettles." Coloured fabrics sometimes produce dermatitis, but the articles in question were made of plain white calico. He said that his persecutors came at night, and blew into his room through the key-hole, through the window (if left open), and even down the chimney, a white powder, which, when inhaled, produced great irritation of the lungs, followed by "weakness." He informed me that he was a stranger in the town where he was acting as petty sessions clerk, and that there had been several local applicants for the situation, some of whom, "out of revenge," were trying to get rid of him by means of poison. I made inquiries respecting this man, and found that he discharged his duties satisfactorily, and that no one suspected him to be the victim of any delusion.

A lady highly connected, moving in fashionable society, and apparently perfectly *compos mentis*, is perpetually bringing me articles of food and drink, for the purpose of ascertaining therein

the presence of poison. She suspects that her brother and sisters are anxious to get rid of her, in order to acquire her property, but she tells me that she has never accused them of this design. She is always quite satisfied when I tell her that I have found no poison in the wine, or butter, or sugar, &c., which she had given me; but I know that in a few weeks or months I shall have another visit from her. No one save myself appears to be aware that this lady is a monomaniac.

Sometimes toxiphobiacs are incredulous when informed that no poison is found in the articles analysed for them. Some years ago a young gentleman suspected that a lady, in order to further her matrimonial designs upon him, was in the habit of administering some potent drug in his food. He always expressed surprise when informed that no drug or poison could be found in the suspected articles. On one occasion, however, I detected in tea a minute quantity of tobacco cut into the finest shreds; I informed him of the nature of the mixture, and (feigning anger) taxed him with having himself put the tobacco into the tea. He confessed that he had done so, in order to prove whether or not analysis could detect the presence of poisons in minute quantities. After this I saw him no more.

Philters (*φίλτρον*, a love-charm, or potion) seem to have been used from an early period by the Greeks and Romans; and amongst the latter, during the period of the empire, their manufacture was carried out upon a large scale, and their sale conducted openly. It need hardly be said that their use resulted in madness, imbecility, and physical disease, instead of the effect they were warranted to produce. Caligula's madness was by some attributed to philters administered to him by his wife, Cæsonia, for the purpose of retaining the tyrant's affections. Lucretius is also said to have been deprived of his reason by a love-potion. In the Middle Ages we find few references to philters, but in modern times deaths from their administration occasionally occur. In the case of *The Queen* against *Manifold* for murder, tried at the Wicklow Summer Assizes, 1875, the prisoner was accused of having poisoned a girl (his sweetheart) by administering to her phosphorous paste. He was acquitted, but the popular impression was that the phosphorus had been given to the girl as an aphrodisiac. Many of the persons who came to me with articles of food and drink for examination were under the impression that they contained drugs intended to excite the sexual appetite; but though I looked for cantharides

and all the other so-called aphrodisiacs, I never found any; nor do I believe that in those cases there had been any attempt to administer them.

ART. V.—*Two Successful Cases of Ovariectomy.* By LOMBE ATTHILL, M.D., F.K.Q.C.P.; Master of the Rotunda Lying-in Hospital; Consulting Obstetric Surgeon to the Adelaide Hospital; President of the Dublin Obstetrical Society, &c.

THE details of the two following cases, in which ovariectomy has been successfully performed, afford some points of interest. The patients came under my care almost simultaneously; they lay in the same ward, and while presenting features very markedly different, were throughout treated on the same principles, both as regards therapeutics and hygiene.

Margaret M'D., unmarried, aged thirty, was admitted into the Adelaide Hospital on the 13th March, 1875. She stated that her health had always been good till about ten weeks previously, when, on recovering from a sharp feverish attack, the result of cold, she perceived that her clothes had become too tight for her, and since then she increased rapidly in size—so much so as to have become the object of unjust suspicion; indeed, she subsequently stated that it was in consequence of the annoyance she experienced from it being reported that she was pregnant that she sought medical aid, coming for this purpose from a remote country district. Her general health was good; she complained only of thirst and of a frequent desire to micturate; her appetite was fair, menstruation normal, nutrition good.

She measured, on admission, 39 inches round the abdomen, at the umbilicus; fluctuation was distinct all over the abdomen, which was dull on percussion anteriorly from the pubes to about an inch above the umbilicus, but resonant in both flanks; the uterus was normal in size, shape, and position; the vagina was narrow, and the hymen perfect. She was low-spirited and desponding, and while absolutely refusing to consent to an operation, urged that something should be done for her. Therefore, with the view of gratifying this wish, I tapped her on the 6th April, and drew off 256 ozs. of a dark and somewhat gelatinous fluid. After the tapping the circumfluence of the abdomen was reduced to 29 inches. She subsequently suffered no inconvenience, and after a short stay in hospital was discharged. She returned again

on the 8th June, when the circumference of the abdomen was 35 inches. From that date it continued steadily to increase till the 12th August, when she expressed her willingness to undergo any operation which would promise relief from her intolerable condition. Before the operation the diagnosis of a unilocular ovarian cyst, with but little solid matter, was made.

The operation was performed on the 18th August, in a spacious lofty room, usually used as a children's ward. It was lighted by five large windows, and was previously thoroughly cleansed and ventilated. I was assisted by my colleagues, Drs. Walsh, Richardson, and Barton. Mr. Croly was also present.

On the morning of the operation she had, at 6 a.m., a light breakfast, consisting of a cup of tea and a little dry toast; and at 8 a.m. an egg, beaten up with half an ounce of brandy, was given. The bowels were freed by means of an enema, and at 10 a.m. she was placed on the table, clothed in a flannel jacket, drawers, &c. Ether was the anæsthetic selected, which was administered by Dr. Richardson, he using for the purpose his own inhaler, which acted most satisfactorily. The patient was difficult to narcotise, and, before she was thoroughly under the influence of the ether, vomited—the egg, taken quite two hours previously, being rejected undigested—a circumstance which deterred me from giving one on the next occasion. She vomited also three times during the progress of the operation, and several times subsequently. An incision, not quite five inches in length, was made in the median line; the cyst was without difficulty exposed; a sound passed round its surface proved it to be quite free from adhesions; Spencer Wells' trocar was then plunged into it, and the contents evacuated, without one drop of fluid escaping into the abdomen; the cyst was drawn out, some little difficulty being experienced in extracting the solid portion, which was of about the size of a man's fist; the pedicle was secured by means of Spencer Wells' clamp, and after being divided was seared with the actual cautery; the edges of the incision were then brought together with carbolised catgut sutures; the abdomen supported in the usual manner, with broad strips of adhesive plaster and a flannel roller. The patient was then put to bed, no anodyne being given, nor any stimulant administered. The operation terminated at 10.45, occupying, from the commencement of the incision till the wound was closed, in all about 25 minutes. At 11 a.m. the pulse was 88. She remained in a state of semi-unconsciousness till noon, when she woke up and

spoke. Pulse, 80. She vomited soon after. To have small pieces of ice at short intervals, and nothing else. 3 p.m.—Catheter passed; stomach sick, with retching subsequently; has dosed a good deal; to have nothing but ice. 11 p.m.—No sickness for some hours; to have a tablespoonful of soda water and milk iced every 15 minutes, if not asleep, and ice *ad. lib.*; catheter to be passed every four hours.

19th.—9 a.m.—Has slept a good deal; pulse, 92; to have half an ounce of beef-tea every half hour, also one ounce of lime-water and milk frequently. 3 p.m.—Had a slight rigor, and complained of pain soon after; this, which was referred to the left inguinal region, was not constant, but paroxysmal, and accompanied by desire to micturate. In my unavoidable absence she was seen by my colleague, Dr. Walsh, who directed her to be stuped—this afforded much relief; catheter to be passed at longer intervals.

20th.—Slept well; temperature, 98.4°; pulse, 84; copious deposit of lithates in the urine; in the course of the day the paroxysms of pain recurred; the urine contained blood; stuping to be continued; is evidently suffering from an attack of cystitis, due probably to the use of the catheter; to have gruel, chicken-broth, milk, and soda water in small quantities frequently.

21st.—Menstruation occurred prematurely to-day, and continued for three days. From this date the distressing symptoms gradually subsided, no medicine of any kind being administered, the treatment consisting of stupes and the use of the unstimulating diet named, taken in small quantities and at short intervals.

On the 23rd, being the fifth day after the operation, the straps of adhesive plaster were carefully taken off, and the wound examined; union had taken place throughout its greatest extent, and there was not any inflammation round its margin; the clamp was removed, and the wound being dressed by the application of a pledget of lint saturated in carbolic lotion, the straps of adhesive plaster were replaced. The use of the catheter was discontinued.

On the 24th some of the sutures were removed; the bowels were also freed, for the first time since the operation, by means of an enema. From this date her progress was uninterrupted. At the expiration of three weeks she was allowed to sit up, and rapidly regained strength. She menstruated again on the 18th September, its appearance being ushered in by a sanguineous discharge proceeding from the stump of the pedicle.

The second case was admitted into hospital on the 28th August, a few days after the patient just referred to had been operated on—the latter, on her fifteenth day, being removed to another ward, in order that the one she had occupied might be thoroughly cleansed, the walls and ceiling being scraped and whitewashed, and the wood-work and floor repeatedly scoured, prior to the reception of the new patient. The following are the particulars of her case:—

Mrs. M., aged twenty-eight, married two years, gave birth to a child just twelve months previous to admission. Her labour had been easy, and convalescence good. Was attended by a midwife, who remarked, after delivery, that the abdomen was larger than it ought to be. She did not mind this at the time, but a few weeks subsequently observed that she “was greatly swelled,” the whole abdomen being uniformly enlarged. A day or two after this she was attacked with pain in the right inguinal region. This subsided in four or five days, but ever after she suffered a good deal of pain at each menstrual period. These attacks of pain, however, did not confine her to bed.

From this time she steadily increased in size, the increase being sometimes so rapid as to be noticeable from day to day; at other times so gradual as to be almost imperceptible. Her health continued fairly good. She, however, lost flesh; but were it not for the weight and inconvenience which her size caused, would not have sought medical aid.

On admission, though very thin, she was not emaciated; her health was apparently good, and complexion clear; she was very cheerful, and, without hesitation, at once expressed her readiness to undergo the operation of ovariectomy—the nature and risk of which was clearly explained to her and her husband.

The circumference of the abdomen was at this time, at the umbilicus, 34 inches; from umbilicus to right anterior spinous process measured 9 inches; to left, $9\frac{1}{2}$ inches; ensiform cartilage to pubes (symphysis), 12 inches. The abdominal walls being very thin, fluctuation was everywhere distinctly perceptible. There was dulness on percussion over front of abdomen to within 3 inches of ensiform cartilage; both flanks resonant. The diagnosis of a unilocular ovarian cyst was made.

The operation was performed on the 4th September, at 10 a.m., the bowels having been freed by means of an aperient pill taken at night, and an enema administered in the morning. A light breakfast

of tea and dry toast was given at 6 a.m., and a little beef-tea at 8 o'clock. I was assisted by my colleagues, Drs. Walsh, Richardson, and Ward. There were also present Dr. M'Clintock, Dr. Kidd, Dr. Denham, and Mr. Croly. Ether was the anæsthetic selected, administered by means of Dr. Richardson's apparatus.

The incision, as in the former case, was commenced about an inch below the umbilicus, and was in the first instance about $3\frac{1}{4}$ inches in length. The abdominal wall was so very thin that after the skin had been divided the greatest care was exercised. The need of this was soon manifested, for after the dissection had proceeded to but a limited depth, so thin and attenuated was the abdominal wall, and so intimately adherent and matted together were the subjacent structures, that it was impossible to say with certainty whether the peritoneum was laid open or not; layer after layer of thin tissue was carefully divided on a broad director, inserted with much difficulty under each layer, till at last I ascertained that I was thus dissecting the actual walls of the cyst itself, the whole anterior surface of which was intimately and inseparably attached to the abdominal wall.

Failing to separate the cyst from its attachment to the abdominal wall below the umbilicus, I enlarged the incision upwards to within an inch of the ensiform cartilage, hoping thus to reach the free edge of the cyst, but in vain. All attempts to separate the adhesions were fruitless, so dense and intimate were they, and at this juncture, in an effort to break them down forcibly, the cyst ruptured, and the contents rapidly evacuated through the rent, much of the fluid escaping into the abdominal cavity. A brief consultation was now held, and so desperate did the case appear that one of my colleagues strongly urged the abandonment of the operation. However, it was decided to make one more effort. I enlarged the opening into the cyst, and, inserting my hand into it, reached the bottom, and grasping the wall at its lowest point, succeeded in inverting the sac, drawing it through the opening I had made, and finally, with considerable difficulty, in breaking down from behind the dense adhesions which had before baffled me, and removing the entire cyst. The pedicle was now secured with a clamp, and, after being divided, seared with the actual cautery.

During the tedious and difficult processes described, very little blood was lost; a large quantity of the contents of the cyst had, however, escaped into the cavity of the abdomen; in fact, the pelvis was nearly full of it, and it was necessary to remove all of

this by sponging. This occupied a long time, but was thoroughly accomplished; no fluid being left in the abdomen. The wound was then closed, as in the previous case, by means of catgut ligatures, but in consequence of the escape of the contents of the cyst into the abdominal cavity, I deemed it wise to insert a drainage tube, bringing it out above the clamp, its free extremity being secured by adhesive plaster to the outside of the right thigh of the patient. The operation lasted one hour and twenty minutes. The patient vomited three times during the operation, and twice afterwards.

On being placed in bed there was no appearance of collapse; the pulse was good, about 85; neither stimulant or opiate was administered, and she was allowed nothing whatever, except ice, for the first eight hours. During the whole day she was drowsy, dosing a good deal; the catheter was passed every fourth hour. 7 p.m.—Pulse, 104; temperature, 101.2°; complains of thirst; *a good deal of sanguineous discharge through the drainage tube*; to have half an ounce beef-tea every second hour, and ice *ad. lib.*

5th Sept.—Slept a good deal during the night; does not suffer any pain; pulse, 96; temperature, 99.6°; diet, half an ounce beef-tea every hour, ice *ad. lib.* 10 p.m.—Pulse, 104; temperature, 100.8°; to have half an ounce beef-tea and one ounce whey at alternate hours; ice as before.

6th.—Slept much during night; no pain; discharge through drainage tube nearly ceased; pulse, 96; temperature, 99.8°; copious deposit and lithates in urine; diet, one ounce beef-tea and one and a half ounces gruel and milk at alternate hours; may have whey, instead of gruel, if preferred, provided the quantity named be not exceeded; ice as before, but she does not now care to take it continuously.

7th.—Pulse, 90; temperature, 99.6°; drainage tube removed without pain.

8th.—Had a good night; pulse, 88; temperature, 99°; commenced to menstruate to-day—this appeared much sooner than was anticipated, and proceeded normally; bowels moved slightly. Diet—Beef-tea, two ounces, every two hours; arrowroot and gruel as before.

9th.—Incision examined, and union found to be nearly perfect throughout; clamp removed; carbolised sutures came away; complains that the passing of the catheter causes pain, and is troubled with frequent desire to micturate; to be allowed to use the bed-pan. Diet as before; may have a little toast with the beef-tea.

10th.—Awoke but twice during the night ; pulse, 86 ; temperature, 98·4° ; bowels freed by means of an enema. From this date there was nothing to record. She gained strength rapidly.

Although these two cases had the same favourable termination, they presented features very markedly different. In the first the tumour was not only of the simplest kind, but was free from adhesions, and was removed without the escape of one drop of fluid into the abdomen, the unpleasant symptoms subsequently occurring being apparently altogether due to the frequent use of the catheter. In the second case the dense adhesions which existed anteriorly rendered the removal of the cyst by the ordinary method impossible, and it was only by inverting the sac, and breaking the adhesions down from behind, that this was finally accomplished. In consequence of the rupture of the cyst the pelvis was filled with the fluid it had contained, and all this had to be removed by sponging, a process which occupied a long time ; but, notwithstanding these adverse circumstances, the patient made an excellent and rapid recovery.

In neither of these cases was any drug whatever administered, nor was any stimulant allowed ; but, on the other hand, the greatest care was taken with regard to diet, ice alone being allowed for the first few hours, and subsequently beef-tea and milk in very small quantities and at stated intervals. To this strict regimen, I believe, much of the favourable issue of these two cases was due. The greatest care was also taken to insure the best possible sanitary conditions, and no person was allowed to enter the ward subsequent to the operation, except the nurse, who had charge of the case, and two pupils, who, *not resident* in the hospital, gave their whole time for the first few days to watch the patients. To these gentlemen—Mr. Nelis and Mr. Meredith—I am much indebted for their constant care and attention to these patients.

ART. VI.—*Uræmia in Affections of the Liver.* By W. WHITLA, late Senior Resident Surgeon and Superintendent, Belfast Royal Hospital.*

At the last meeting of the Ulster Medical Society we enjoyed the privilege of listening to the President's most interesting and

* Read before the Ulster Medical Society, Dec. 1st, 1875.

valuable series of cases of puerperal eclampsia. The paper, which was an essentially practical one, was all the more valuable because the author chiefly confined himself to his most successful treatment of this very formidable and too often fatal affection. If I err not, he stated at the beginning of his remarks that it was not his intention to enter into the pathology of the disease. The few remarks in this paper on "uræmia" are merely intended as a preface to one on Puerperal Eclampsia.

With the symptoms of this poison (uræmia), and its most frequent cause, Bright's disease, it is wholly unnecessary to take up the time of a Society like this, where every one is so thoroughly acquainted with them, and it is merely my intention to show that the different forms of Bright's disease, or desquamative nephritis, are not the *sole* causes of this affection. Excluding diseases of the chest, there is no class of cases more common in the medical wards of an hospital than diseases of the kidneys; and perhaps next to these would come the various affections of the liver, especially cirrhosis and cancer. During the early part of last year there were in hospital several patients dying from Bright's disease, and at the same time there happened to be an unusual number of structural liver cases in the wards; and I was forcibly struck with the similarity of the symptoms of these two very different and opposite affections.

By closely watching the progress of a few patients in the advanced stage of kidney disease one becomes familiar with nearly all the phases of chronic uræmia, but here a condition presented itself identical in all respects with this, yet arising during the progress of an essentially different disease. At first I was led to believe that in these cases the kidneys were diseased in addition to the liver, but in some instances where I had the opportunity of making *post mortem* examinations I found these organs healthy and free from any organic change. In May, 1874, Dr. Murchison's Croonian Lectures on the functional affections of the liver were published in the *Lancet*, and in one of these valuable productions (which I regret being unable to lay hands on at present) he clearly points out a most important function of the liver.

Dr. Murchison, supported by high Continental authority, states that one of the chief duties of the liver is to lay hold of the effete albuminous compounds, the products of wear and waste in the blood, and to reduce these to their most soluble form, urea, in order to present them to the kidney in a condition capable of being

easily and rapidly eliminated. According to these authorities, one may say, if I understand them aright, that it is the liver which *manufactures* the urea, the office of the kidney being merely to throw it out after its elaboration; consequently, when this function of the liver is deranged, these products are not reduced to urea, but the process stops short, and intermediate compounds—tyrosin and leucin—are formed, substances which the kidney cannot so easily eliminate, and which consequently accumulate in the blood and give rise to the same symptoms as urea, from which, in chemical composition and physiological effect, they differ little, and may be practically regarded as modifications of this substance possessing lesser solubility.

When I use the words “uræmic poisoning,” I wish it then to be understood that I refer to two similar conditions produced by two very different causes—in one the diseased kidney refuses to throw out the already manufactured urea, in the other the healthy kidney is unable to excrete the deleterious products of disintegrating albumen less oxidised than urea. The present state of our pathological knowledge does not enable us in all cases to discriminate clinically the causes at work in producing these identical conditions, especially as we have reason to believe that both factors are operating in the majority of cases of uræmia.

Cirrhosis, by destroying the secreting texture of the liver, produces this derangement of its function, and the consequent retention of these substances gives rise to symptoms of uræmic poisoning. The convulsions and other symptoms met with in the rare disease, acute yellow atrophy of the liver, Dr. Murchison looks upon as owing to these poisons; and, if I mistake not, he goes so far as to say that this form of poisoning is not the uncommon wind-up of the long train of symptoms met with in cases of advanced structural disease of the liver. He believes in this way, too, is accounted for also the typhoid condition which characterises many of the profound lesions of the system. An excellent example of this typhoid condition, associated with symptoms of uræmia, presented itself in the case of Mary B., which I had the honour of bringing before the Society in April, 1874. In this case no trace of disease could be detected anywhere; her delirium was considered to be owing to typhoid fever; the patient died after a few days illness, evidently from some mysterious blood poison; and on opening the abdomen four-fifths of the liver was converted into a bag of pus, though not a single symptom pointed to this organ during life.

Of a considerable number of cases of cirrhosis of the liver, and a few of cancer of this organ which I watched in hospital and kept under observation after leaving it, in the majority death from uræmia occurred. Though these facts are very interesting from a pathological point of view, they are not of much practical importance if only occurring in the last stage of a disease, nor of much diagnostic value, since the affection is obvious before their development. But I am satisfied that uræmic poisoning may be the *first* symptom of structural disease of the liver, and it seems possible that it may arise also from a purely functional affection of this organ; and I hope to lay this before the Society in my next paper as an explanation of the pathology of puerperal eclampsia in those cases characterised by absence of structural kidney disease.

When we know positively that advanced structural disease of the liver nearly constantly ends in uræmic death (provided the patient be not cut off by some complication), and when we, over and over again, find in the bodies of persons dying from other causes livers largely diseased and extensively destroyed, without a single symptom pointing to derangement of this organ during life, it is easy to see of what vast practical importance this cause of uræmia becomes.

Long ago every obscure disease characterised by the presence of coma and convulsions was put down to apoplexy, but in later days, since the researches of Dr. Bright, it seems the fashion to class them as diseases of the kidney; it is not a very rare thing to hear of sudden deaths preceded by coma and convulsions, especially in children, where the *post mortem* examination reveals no traces of disease in either brain or kidneys; and we find it sometimes noted as a matter of little moment that the liver is found much enlarged.

In my own short experience of nearly two hundred autopsies during the last two years, I can recall but a few cases where this *now* seems to me the most satisfactory explanation, though at the time I could offer none. I will refer to my notes of one case. In January, 1874, a man, aged thirty-nine years, was admitted to the Belfast Royal Hospital suffering apparently from bronchial affection. He had been ill about a week. On examining his chest no evidence of disease was detected, though he suffered from considerable dyspnoea, and had a harsh barking cough. His body was evidently well nourished. Owing to the absence of physical signs, acute tuberculosis was suspected, and merely expectant treatment adopted. He remained in the same condition till about the tenth

day after admission, when sudden coma set in, with convulsions, from which he recovered under purgatives and the use of the blanket-bath—only, however, to be attacked the next day, when he died, after being nine hours comatose, with frequent convulsions. During life his urine was examined, but with negative results; unfortunately, tyrosin and leucin were not tested for. Careful examination showed complete absence of either casts or albumen.

Autopsy twelve hours after death.—*Lungs* healthy; nothing in them to explain the cause of the dyspnœa. *Brain* healthy. *Kidneys*—weight, normal; appearance, healthy; consistence, a little firmer than natural—left slightly lobulated. *Liver* fatty; weight, nearly seven pounds; under the microscope, cells filled with oil.

I could form no idea of the cause of death after examining every organ in the body; it seemed probably renal, till the kidneys were carefully examined under the microscope, but no disease was found in them. This case, read in the light of more recent pathology, is, perhaps, capable of explanation.

Looking at urea or its modifications as toxic poisons, and keeping in mind some of the most important functions of the liver, we are able to afford an explanation of many things very difficult to otherwise understand. Like many other poisons, after a time the system becomes very tolerant of its action, and the nerve centres, accustomed to the gradually-vitiated blood, are in a condition ready, as it were, to rebel at a moment's notice on the least additional increase of poisoned pabulum; when matters are thus evenly poised, suppose any trivial cause interferes with the function of the liver, the last straw is laid on, and the result is—a *convulsion*. On the other hand, we see patients smitten down and prostrated with this poison, and watch the progress of Death as he comes slowly and steadily on grasping his victim, who succumbs quietly, and passes away without one struggle. Is it not possible that *two* organs are at fault in the first case, and only one in the latter? Indeed, it may even come to be a disputed question whether the kidney alone, by its disease, is capable of producing death from uræmia.

Shortly after the first dawn of light was shed upon the pathology of kidney diseases, to find albumen and casts in the urine of a patient was to give him a very limited term of existence; now we know these are not incompatible with a lengthened and enjoyable period of life. We put under the microscope two samples of urine

from different patients the subjects of this disease; we see in one here and there a few small scattered casts, and these, too, found with difficulty; yet this patient may have but a few weeks to live, while in the other we find the field studded over with casts of such magnitude as to prove they are the models of tubes devoid of all epithelial or excreting tissue, and full of oil and fat cells, evidently from a gland whose structure is apparently almost destroyed; nevertheless, its owner may live and enjoy life for a good long time till perhaps cut off by some unexpected complication; we have no more reason to wonder at this than at the case of a patient who dies from a slight contraction of the mitral valve, while his neighbour lives with *his* mitral no longer a valve but a mere slit, till old age carries him home. Yet these admit of an explanation if we knew it; and is it not possible that the life of a diseased kidney is depending upon its liver? If so, a very material point is gained in prognosis and treatment.

A word about the uræmia of scarlatina. My experience is far too limited to generalise, but perhaps I shall be borne out in stating that convulsions occur more frequently in this form of desquamative nephritis than in the acute affection, the result of exposure and other causes. Dr. Samuel Fenwick and others have found in the stomach tubes and the Lieberkühnian follicles of the intestines in the bodies of patients killed by scarlatina, changes which prove that a process takes place in the epithelial lining of these glands analogous to the desquamation occurring on the surface of the body, while a very eminent authority affirms that this is the true pathological explanation of the lesion of the kidneys which, he says, is caused by the shedding of the epithelium lining in scarlatina, the convoluted tubes of these organs.

But I can go one step further, as I hope, from changes which I have noticed in scarlatinal blood, to demonstrate under the microscope, before the conclusion of this session, that the epithelial lining of the blood vessels of the body suffers the same destruction as the cuticle, and that partially broken-up cells and nuclei corresponding to the pavement on the fenestrated coat of Henle are sometimes to be found in the circulating fluid during the early desquamative stage of scarlatina. Many things go to show that at this stage of the disease the blood is charged to excess with excrementitious matters, consequently great extra work is required of the liver to elaborate urea from these, which work the liver does, though more quickly and less perfectly than it should, and the resulting

modifications or substitutes for urea cannot be thrown out sufficiently rapidly by the kidneys, already overtaxed and unhealthy, and uræmia results. If, then, this state of matters exists, we see what a very important part the liver plays in the uræmia of scarlatina.

The hypothesis of a condition somewhat like this will go far to explain many cases of puerperal eclampsia characterised by the absence of structural kidney affection. Supported by the researches of Murchison and others, whose labours have thrown considerable light upon the functions of the liver, one may venture to hope, as these functions are better understood and more generally known, that many of the pathological difficulties surrounding diseases of the kidneys will be cleared away.

That cases of disease in these organs are turning up now and then which baffle every scientific explanation the practice of most men will confirm; and it is not unlawful, having tried in vain to elucidate them by the light of all that is now known of renal pathology, to turn to the investigation of the conditions of other organs and there seek for hidden associations which may assist us. It was my intention to read the notes of a few cases of this kind which have given me some trouble, but I have already trespassed too much upon my reader's time, and will conclude by briefly referring to one. Nearly three years ago a physician in the country sent me a specimen of urine from a patient who had slight anasarca, and requested me to make a careful examination of it. Its specific gravity was 1012. On the addition of nitric acid it was found to contain nearly half the depth of the test tube of albumen; but, notwithstanding the most careful investigation, no traces of casts could be detected; his urine continued highly albuminous for some months, when I saw him and found him a man of fifty-five years of age, in excellent health and spirits, and capable of his usual amount of work—in fact, quite as well as he had been for years, excepting a trouble which I shall mention presently. There was no anasarca, heart, or liver affection. A sample of his urine has been sent me nearly every month since then—sometimes more frequently; it has always been highly albuminous, oftentimes alarmingly so; much time has been spent in examining it microscopically, but only once were anything like casts found in it; it has been examined repeatedly by other microscopists with the same result. This case seemed worth recording owing to the remarkable absence of *microscopic* evidence of structural disease; the urine of a healthy patient examined so often and

searchingly as his would hardly fail to show some well-formed casts occasionally. Last Christmas morning I received a sample of his urine, which contained one-third albumen; next day I received a letter stating he had been out shooting, exposed to frost and snow. Crystals of tyrosin have been found occasionally, and once little masses of leucin, in his urine, and, strange, the only trouble he ever experiences is owing to violent and excruciating attacks of hepatic colic, which reduce him very low indeed for days. Last time I examined him the extent of hepatic dulness in the mammary, axillary, and scapular lines was normal, and neither atrophy nor enlargement of the liver could be detected.

The supposition of a waxy kidney will not satisfactorily account for this state of matters, the only evidence of disease of this organ being found in the quantity of albumen passed daily; and it is worth while remembering the fact that if a healthy man fasts for twenty-four hours and then eats a quantity of highly albuminous food, such as eggs, large quantities of albumen appear in his urine; as the liver, having too much work to do, permits some of this substance to pass through in a condition unfit for supplying the wants of the blood. When blood so charged with this crude albumen reaches the kidneys it is at once purified by these emunctories. Is it going too far to suppose that some structural or functional derangement of the liver might convert this transient occurrence into a permanent symptom? If not, albuminuria with uræmia might be accounted for in many cases of puerperal eclampsia where careful microscopic examination reveals no casts.

But in a subject like this there is such scope for theorising that it is well to keep in mind the danger of passing through the region of the probable into the domain of impossibility. We arrive at much more accurate conclusions about the function of the liver from closely and narrowly watching the symptoms in cases where this organ is very extensively diseased than by any series of experiments on the lower animals, where many unfavourable conditions are necessarily induced, and the physiologist will soon learn that from clinical medicine alone must he seek for further light upon this subject. The facts stated upon the high authority of Dr. Murchison and others show beyond doubt that the liver is intimately associated with the elaboration of urea; and if these few remarks ever lead anyone to turn to the *liver* for an explanation of the many obscure cases of uræmia, its object will be more than fulfilled.

About the *diagnosis* of uræmia from brain disease, apoplexy, alcoholic poisoning, &c., considerable difficulty is sometimes met with, especially in those cases where a sudden attack is experienced for the first time, and where no history of any renal trouble can be found. In such cases great assistance will be had from careful examination of the condition of the heart, as nearly always distinctive modifications of the heart sounds will be heard, as reduplication of one or both, intensity of second sound, &c., differences also in the arterial tension and cardiac impulse. Of these none seem so constant or remarkable as muffling of the first sound. In a very interesting case of uræmia, which I saw with Dr. Bell, at Bangor, in June, 1875, in a lady aged forty-six years, the first sound was *entirely absent* for four days after the cessation of the convulsions, returning suddenly after a strong purgative; it seemed as if due to the resistance offered by the swollen artery to the entrance of blood during the contraction of the left ventricle, so that no wave of sufficient strength to beat against the wall of the artery occurred.

ART. VII.—*Questions in Ophthalmic Surgery.* By H. MACNAUGHTON JONES, M.D., M.Ch., L.&F.R.C.S., Irel. and Edin.; Surgeon, Cork Ophthalmic and Aural Hospital, &c.

I.—ANÆSTHESIA.

II.—ENUCLEATION AFTER INJURY.

I.—ANÆSTHESIA.

It must ever be a matter of considerable moment to the operator in conducting any eye operation, whether, in the first place, he shall use any anæsthetic at all; and secondly, if he does do so, what the nature of that anæsthetic shall be. The number of operations daily performed in any large ophthalmic hospital, and weekly in a small one, makes the question of the use of anæsthetics a very serious one to the ophthalmic surgeon. The responsibility involved in their administration in an hospital, such as Moorfields, where there is a daily average of at least six or eight operations, is, no doubt, a serious one. But it is much more so in a smaller hospital, or in private practice, when, especially if an experienced anæsthetiser cannot be had to administer the anæsthetic, the operator has to trust to inexperienced hands, and the anxiety is not relieved, and the responsibility divided, by a large staff, who surround and assist

him. Under such circumstances the administration of an anæsthetic may often seriously affect the result of an operation, even in the best hands. If either through the faulty mode of administration, or idiosyncrasy of the patient, or any cause, troublesome or alarming symptoms arise, the operation must be desisted from, or be continued under the most unpropitious of circumstances. This, unfortunately, in operations on the eye is, above almost any other class of operations in surgery, to be deplored. The more serious operations—as, for instance, the ordinary one of cataract—require to be done expeditiously, and with a coolness and attention as little distracted as possible. Any distracting cause, or any divergence of the surgeon's attention, may be disastrous to the result. Eye operations of this nature require the undivided concentration of the surgeon's mind. If he be interrupted either by the struggles of the patient or the consequences of incomplete anæsthesia on the one hand, or his and the bystanders' alarm at the symptoms exhibited by, or the appearance of the patient, on the other, the coolness and precision with which the operation should be conducted is seriously imperilled. There must be a mechanical certainty to the extent of a line in operations on the eye, and a precision which it is vain to hope for if the surgeon has to contend with these difficulties. Besides, the power of individual operators, though they may be quite equivalent to the demand on ordinary occasions, may not be so under these unfavourable attendants. The feeling, on the part of the operator, that even under the most unpropitious of circumstances, he will conduct the steps of the operation, and master all the unavoidable accidents which may occur, as successfully as it is possible for such to be done, is not to be acquired except by long experience, and a hand and head peculiarly fitted for these manipulations. But laying aside these immediate drawbacks, there are others which force the consideration of anæsthetics on all who determine to administer such to a patient for an eye operation. There is the vomiting during the operation and after it is completed, or if not actual vomiting, there is the nausea and the temporary derangement of the stomach which is so often witnessed. And not alone this organ, but the whole system frequently participates in the disturbance. The head, the pulse, the skin, the secretions, are all often influenced, differently in different constitutions, by the anæsthetic employed. It is evident that, the process of nutrition being thus at times more or less disturbed, the effect must be especially deleterious in wounds of

the eye. It is impossible that agents which so profoundly act on the nervous and circulatory systems generally, can do so, without to a degree, differing in various subjects, influencing the healing or absorbing powers of such tissues, as those injured in eye operations. Practical experience, I think, proves that this is so. The amount of the anæsthetic, which it is necessary to give some patients before they succumb to its influence, more particularly if chloroform be selected, frequently, by the consequent constitutional disturbance, produces local changes in the injured organ. In some who, either in the better ranks of society or among poorer patients, indulge too freely in alcohol, this bad result is the more frequently observed. On the other hand, in those who lead a routine life of observance to dietetic rules, and who never deviate from these, especially people advanced in life, or persons with a gouty tendency, the enforced fast, the employment of the preliminary stimulant, the subsequent excitement, and general deviation from rule, often lead to unpleasant complications, and give negative or unsatisfactory results. In my experience, the younger the patient the more satisfactory the issue. Children bear anæsthetics well. In these, also, there is the insurmountable dread of an operation, the struggling and consequent congestion, the proportionately greater shock, and at the same time less toleration of pain. These considerations, added to the general one of the impossibility of performing an operation at all in the great majority of cases without an anæsthetic, compel the surgeon to administer one to young patients. But in addition, the surgeon who administers an anæsthetic has to face the risk, proportionately small though it may be, of a fatal result. This is the more to be feared in the case of chloroform than any other anæsthetic. I shall presently allude to the comparative risk run with this and other anæsthetics. If a patient dies under the influence of an anæsthetic during an eye operation, as has frequently occurred, the administrator has to bear almost the entire responsibility of the result in the present condition of our knowledge of anæsthetics. If he administers chloroform, he does so knowing that it is clearly shown not to be as safe an agent as ether. If he administers ether, we are told that he is to be held responsible if death ensues, as nothing but culpable carelessness or ignorance of its effects can account for a fatal result from this agent. If he uses bichloride of methylene, he lays himself open to the same rebuke as in the case of chloroform. He cannot give nitrous oxide gas, and experience

has not yet demonstrated the value or safety of more recently suggested anæsthetics, such as methylic ether, or hydramylchlor., &c. He is thus placed in an awkward dilemma in the event of a fatal issue. Deaths have of late so frequently occurred from chloroform, that the responsibility of administering it in eye operations is extreme. In these there is no shock, loss of blood, or other explanations to be offered. The patient dies of the anæsthetic effects directly or indirectly. The risk may be accepted, or it may not, by the patient. The administrator and operator come in for an unpleasant notoriety, as having sacrificed the life of a patient for the preservation or restoration of one function. Such being the case, the question naturally arises—can anæsthetics, in the majority of eye operations, be dispensed with? Some believe they can, and I am borne out in this statement by the experience of many Continental and British operators, who rarely use anæsthetics. The rapidity with which eye operations are performed, the slight pain inflicted, the facility with which operations can be conducted without anæsthetics, renders the use of such, they say, only necessary in exceptional cases.

And yet the advantages gained by profound anæsthesia are great. And here it may be well to remark, that, as none can operate in any stage earlier than that of complete insensibility and perfect relaxation of the muscles, so experience shows there is nothing to gain by doing so, in the point of safety to the patient, imperfect anæsthesia being alike (I allude more particularly to chloroform) dangerous to the patient and fatal to the operation. By the use of an anæsthetic we gain complete control over the eyeball. We overcome the dangers and impediments caused by contractions of the orbicular and recti muscles, more especially the superior rectus, the one which causes the most troublesome and dangerous of all movements of the eye (see Carter, "*Principles of Ophthalmic Surgery*," 180–189). There can be no doubt that by this means we lessen considerably the chances of vitreous escape, and those bad effects which follow from sudden movements of the patient's head. This is a great gain where reliable assistants cannot be obtained to fix the head. The use of an anæsthetic, also, does away with the necessity for any cumbrous fixing apparatus, or cephalostat, which no one thinks of using who has a steady nurse or assistant. There can be, I think, no doubt that even in the hands of the greatest and most expert of operators these impediments lead to accidents. In fact, it is the power to

meet accidents from combinations of unforeseen causes, the tendency to the occurrence of which is always increased in the unanæsthetised, that proves the operative skill of the surgeon. Nothing but the multiplied experience gained by overcoming such constantly, and instant presence of mind to cope with them, can give that almost absolute certainty with which he anticipates and meets unavoidable accidents. That he is materially assisted in doing so by the anæsthetic no one can doubt. If we find surgeons whose experience, gained by years of constant operative practice, is almost unlimited, in a certain class of patients and for certain operations, always using anæsthetics, the inference is, that to operators of less experience their aid is invaluable. But the assistance they give is so influenced by the circumstance before mentioned, that unless the operator's mind is relieved by the knowledge that the anæsthetic is safe and properly given, and, the presence of reliable assistants in the event of accident, or division in the responsibility of administration, it is equally clear, that, especially to the less experienced surgeon, their use may be pernicious. Personal experience has taught me this—many patients, or their friends for them, insist on the use of an agent to relieve pain, and render them insensible during the operation. It is a matter of fact that a large per-centage of persons would not, especially in preventive measures, not to speak of restorative ones, submit to any interference, unless such a state was guaranteed beforehand. Here we have no choice. We gain the advantages of the anæsthetic, and we avoid the responsibility of voluntarily administering it. But in other instances it will ever be an open question, dependent on the surgeon's experience, the age and the character of the patient, or a past knowledge of the patient's power of bearing pain, and remaining quiet and obeying directions, as to whether he gives an anæsthetic. For my part, I would make it a rule to give such in all operations likely to be of a painful or protracted nature, as some of those on the eyelids, for strabismus, enucleation, and on the orbit, and in every instance where I considered perfect relaxation of the muscles and immobility on the part of the patient essential to the success of the operation. Such, for example, would be the case in suction operation on cataract, and that for trephining the cornea for conical cornea. I have many times performed the various operations for extraction of the lens successfully without any anæsthetic, either when I feared its use, or had to desist from its administration. I have frequently operated

without an anæsthetic from choice, not having a skilled anæsthetiser to hand, and perhaps, at the express desire of the patient to be operated on without. But I freely confess that I would at all times, in all operations for extraction, prefer to have my patient thoroughly anæsthetised. For iridectomy, and, indeed, all operations on the iris, I seldom of late use an anæsthetic. I consider such, except in young patients, or very nervous and sensitive ones (I would almost say) unnecessary. But this must also depend in great part on the wish of the patient and the conditions before-mentioned, which generally affect its administration. The practice of different surgeons varies on this point, but I think all must agree that both in cataract and operations on the iris the administration of an anæsthetic becomes at times unavoidable. I do not think that most surgeons would rely "on the resistance of the recti muscles as an aid to extraction," which was advanced by Mr. Jabez Hogg (Ophthalmological Congress, 1872) as a reason for his relinquishing the use of anæsthetics almost entirely. Mr. Swanzy, Surgeon to the National Eye and Ear Institution, Dublin, does not, as a rule, use anæsthetics for cataract or operations on the iris. So with many others. If, however, from the foregoing observations, it becomes evident that the ophthalmic surgeon must use anæsthetics, it next becomes a matter of vital import which one he shall select. We must, I consider, unhesitatingly answer—ether. Even in young children, I think, chloroform alone is inadmissible. The combination of chloroform as a partial and preliminary, and ether as a complete, anæsthetic, is especially adapted for children. We avoid the struggling and unpleasant early effects of the ether, while by the substitution of the latter we gain the safety. I have had complete satisfaction with bichloride of methylene with children. I have administered it now over 1,200 times to persons of various ages, without any bad result, though I have been frequently alarmed, and had to desist from its administration. But the five or six deaths recorded within the past few years, without cause or warning, and the fact that they have relinquished its use at Moorfields Hospital, and adopted ether, prove that it is not as safe as the latter agent. It was especially with children I found satisfaction from methylene. Dr. Richardson, in 1867, when he brought this anæsthetic before the notice of the profession, pointed out its advantages over chloroform, and the fact of its having an equivalent less of chlorine, which rendered it less dangerous. But since then, as a chlorine compound,

he has pointed out its relative danger, and the deaths which have taken place from its use during eye operations, prove the correctness and fairness of his opinion regarding it. The rapidity with which children are influenced, the completeness of the anæsthesia, the good after-results, the general absence of vomiting, the simplicity of administration—all combine to induce me to adopt bichloride of methylene in children in preference to chloroform, if ether be not to hand. The question remains—on what grounds do we adopt ether in preference to any other anæsthetic in eye operations? We may safely reply, on the following:—

1st. Physiological; (a.) experimental on the lower animals, and (b.) its action on the human economy.

2nd. Practical experience of the immunity from danger which attends its use, as contrasted with chloroform.

3rd. The ease of its administration in the vast majority of cases, and the favourable after-results.

The first statement is established beyond question by the experiments of Schiff (*vide Practitioner*, April, 1874), Carter, Bernstein, Bert (*vide Wood*, "Treatise on Therapeutics," chapter on Anæsthetics), English Chloroform Committee, Glover, Gosselin, Anstie, Flourens, Longet, &c.

The second is universally acknowledged, and has been statistically proved to be true by many leading anæsthetisers.

The third is proved by the following table, in which its ease of administration and good results are attested by a large number of anæsthetisers all over the kingdom:—

St. George's Hospital, London.—Ether, satisfactory in administration and results; felt cone and sponge at top.

St. Bartholomew's Hospital, London.—Ether preceded by nitrous oxide gas, satisfactory in administration and results (1 case of sickness out of 800 or 900); Clover's apparatus, made by Mayer and Meltzer.

Hospital for Diseases of the Throat, Golden-square, London.—Up to the present time chloroform has been used, but ether will be in future; in tracheotomy, skin frozen with ether spray.

The Evelina Hospital, London.—Chloroform, entirely satisfactory.

Metropolitan Free Hospital, London.—Chloroform, on lint, satisfactory.

Westminster Hospital, London.—Chloroform and ether (either alone or in combination), satisfactory; Clover's apparatus for chloroform; inhaler made of sponge cotton wool and oiled silk for ether.

Guy's Hospital, London.—For children chloroform invariably, and for adults very frequently, but sometimes the mixture—alcohol 1 part, chloroform 2 parts, ether 3 parts—is given, when the surgeon prefers it or chloroform is badly taken; ether is always given in hazardous cases. Safest and best administration—place patient under influence of chloroform, and keep him under mixture.

Royal London Ophthalmic Hospital, Moorfields.—Ether, satisfactory in administration and results.

St. Mark's Hospital, London.—Ether, satisfactory.

Samaritan Free Hospital, London.—Bichloride of methylene, very satisfactory.

Sick Children's Hospital, London.—Chloroform, on lint.

King's College Hospital, London.—Ether and chloroform about equally, both satisfactory.

London Hospital.—Ether ; chloroform in children and old people ; satisfactory.

University College Hospital, London.—A combination of nitrous oxide gas and ether, most satisfactory and safe ; Clover's new gas and ether apparatus.

Middlesex Hospital, London.—Pure ether, entirely satisfactory.

General Infirmary, Leeds.—Chloroform and ether, the latter more frequently ; ether with any efficient inhaler (Dr. Allis's) ; length of time objection, also objectionable in pulmonary disease ; chloroform on lint or calico.

Newcastle-on-Tyne Hospital.—Chloroform chiefly, satisfactory ; one surgeon has lately commenced ether.

Addenbrook's Hospital, Cambridge.—Ether, safe, but unpleasant.

Mercer's Hospital, Dublin.—Chloroform, satisfactory in administration and results.

City of Dublin Hospital.—Anhydrous ether, partial satisfaction in administration and results ; slow action, consequent sick stomach ; Richardson's inhaler.

Bristol Royal Infirmary.—Ether, satisfactory in administration and results ; a large sponge (medium).

Bristol General Hospital.—Chloroform, satisfactory in administration and results ; plated inhaler.

The Queen's Hospital, Birmingham.—Ether, satisfactory in administration and results ; folded towel or with sponge.

General Hospital, Birmingham.—Ether for adults principally, and chloroform principally for children, satisfactory in administration and results ; chloroform on lint.

Royal Southern Hospital, Liverpool.—Chloroform, and occasionally ether ; satisfactory in administration and results.

Royal Infirmary, Manchester.—Generally chloroform ; occasionally a mixture of sulphuric ether, chloroform, and rectified spirit, perfectly satisfactory ; on lint.

Sir P. Dun's Hospital, Dublin.—Chloroform only ; Skinner's inhaler and dropping bottle ; satisfactory in administration and results.

Jervis-street Hospital, Dublin.—Chloroform only, perfect in administration and results, never had an accident ; plain wire-framed inhaler, like Skinner's, covered with fold of flannel.

Mater Misericordiae Hospital, Dublin.—Ether, satisfactory in administration and results.

Richmond Hospital, Dublin.—Up to the present chloroform, but ether has been introduced.

St. Mark's Ophthalmic Hospital, Dublin.—Chloroform, satisfactory in administration and results.

Steevens' Hospital, Dublin.—1. Chloroform. 2. Ether (principally used). 3. A mixture of chloroform, ether, and rectified spirit. 1 and 2 satisfactory, but in 2 patients very troublesome ; 3, not sufficient data to report.

Eye and Ear Infirmary, Dublin (Dr. Jacob).—Ether exclusively, perfectly satisfactory if properly administered ; air excluded altogether if possible ; Morgan's apparatus alone effects this purpose ; with Skinner's frequently fails.

Aделаide Hospital, Dublin.—Ether administered by means of Mr. Richardson's apparatus ; chloroform is also used ; perfectly satisfactory.

National Eye and Ear Infirmary, Dublin.—Anæsthetics are not used unless for protracted and painful operations—e.g., plastic, on eyelids, enucleation, &c., then ether is generally given; for cataract extraction, iridectomy, &c., no anæsthetic is given; chloroform is sometimes used; Richardson's apparatus requires too much ether, and does not sufficiently exclude the air.

St. Vincent's Hospital, Dublin (Mr. Quinlan).—Of late years I always use ether; I have administered chloroform over 1,400 times; I have never had a fatal case, but have had some narrow escapes; I sometimes still use chloroform under exceptional circumstances, but never without anxiety and apprehension.

Meath Hospital, Dublin.—Chloroform, and ether sometimes; satisfactory in administration and results.

Royal Hospital, Belfast.—Chloroform, satisfactory; 5,000 administrations, no single death; given on sponge.

Royal Sick Children's Hospital, Edinburgh.—Chloroform, satisfactory in administration and results; given on towel folded in conical shape, and open at top.

Royal Infirmary, Glasgow.—Chloroform, satisfactory in administration and results; given on towel.

Aberdeen Hospital.—Chloroform, fairly satisfactory.

Edinburgh Royal Infirmary.—Chloroform; satisfactory.

Practically, in what consists the safety of ether over chloroform? In *chloroform* the cerebral anæmia, the secondary paralysis of the inhibitory centres, the lowered arterial pressure, the secondary paralysis of the vaso-motor nerves, the direct paralysing effect on the heart. In ether, the motor centres of cord and medulla being acted on *after the sensory*, the increase of arterial pressure, the increased power of the heart. This being so, it is apparent that to produce anæsthesia for eye operations the best and safest anæsthetic is ether. Mr. Morgan, I believe, is right when he lays great stress on the exclusion of air; his inhaler, Dr. Jacob says, alone secures this; however, I have had very satisfactory results from Skinner's hitherto, but I intend to give Mr. Morgan's a trial. If we exclude air and give *plenty* of ether, we give ether properly; not otherwise.

II.—QUESTION OF THE NECESSITY FOR ENUCLEATION OF THE EYE AFTER INJURY.

The question of the advisability of enucleation of the eye in traumatic cases is the most difficult that can be proposed to us; it is so difficult that, in point of fact, it is impossible to lay down any rules that can be followed in every case. So said Mr. Critchett in speaking on this subject at the Congress in 1872. Surgeons generally are apt to look on the enucleation of the eye by the special ophthalmic one, as a step which is often too hurriedly taken, and that a more conservative policy in cases of injury should be adopted. The complete revolution which eye surgery has undergone

in this particular of late years is, in great measure, the cause of this. Formerly, save for malignant disease, tumours, or other incurable diseased conditions, the eye was not removed. The dangers of sympathetic ophthalmia, its terribly rapid access in some cases, almost without warning, its insidious progress in others, were not realised. Hence the truly conservative nature of the operation of enucleation, especially after the occurrence of injuries, was not understood. Nothing can be more unpleasant than a difference of opinion as to the advisability of the removal of an eye. This is exemplified in the case quoted by Mr. Carter in his recent work on "Ophthalmic Principles," in which there was a difference of opinion between surgeons in a distant town as to the expediency of operating. The case was one of a gunshot wound. The question here was, whether the shot was in the ball or not. Mr. Carter, being telegraphed for, decided on enucleation, and more than one grain was found in the eye. It is not necessary to dwell on the disagreeable results which such a case must bring to at least some, if not all those concerned. It is, then, as M. Wecker remarked, important that the indications for operation should be determined with greater precision than at present. I consider we have arrived at such an accurate knowledge of these indications that there can be no longer any doubt as to those which imperatively demand operative interference. It is with the hope that the narration of the history of the ensuing case, and the few remarks which accompany it, may prove of *practical* importance in similar circumstances, that I am induced to publish it in this Journal. I have felt this practical difficulty myself on more than one occasion, and have found it not an easy matter to get the views now held by ophthalmic surgeons generally, on the subject of enucleation, either understood or adopted by men who have not made such their special study; the reproach is so easily cast, that an eye has been too readily removed or too great haste exhibited. This must ever be much more felt in those places where an opinion cannot be endorsed by some metropolitan surgeon of wide reputation, or at least by some one of considerable and special experience in these cases. An unjust imputation, wilfully or ignorantly cast on ignorant soil, may take firm root, to the serious injury of the conscientious surgeon, who, knowing the dangers, will neither permit his patient or his own reputation and peace of mind to suffer from the great risk or fearful consequences which too frequently ensue as the result of want of firmness or decision under such circumstances.

The responsibility of advising non-interference is out of all proportion greater than the opposite course, when doubt exists as to the propriety of removing an eye. I give the opinion as expressed by Mr. Bowman to me, in a case which cost me no small degree of anxiety, and in which I advised an expectant policy, after a gunshot injury; and subsequent events have, up to the present, proved the correctness of my decision. I consider that M. Warlomont, at the Congress, 1872, contributed materially to remove doubt on this subject when he placed on record his three propositions, which met with few dissentients, and when, as M. Donders said, it might be admitted, to no one of those present did any objections readily occur. The propositions of M. Warlomont were as follows:—1. When an eye, lost by injury or disease, or even when the stump which represents it, is the seat of continuous or intermitting hyperæsthesia or inflammation, either of an acute or chronic character, it is capable of setting up sympathetic mischief in the other eye. The sympathetic affection may manifest itself, even *in the absence of all perceptible irritation in the organ originally injured*. In both cases enucleation is indicated. It is important to perform this operation as soon as possible after the manifestation of the first symptoms. 2. When the sympathetic irritation has already advanced to an irido-cyclitis, with exudation, *enucleation is almost always useless, for it is slow of progress*. 3. When an eye is *destroyed* by injury, we should at once proceed to enucleate it. This *preventive* enucleation should always be recommended when there is *reason to suspect* the presence of a foreign body in the eye. Mr. Carter, in his recent work, says:—"In considering the treatment of any case of injury to the eyeball, the first question which the surgeon has to ask himself is—Does this menace the safety of the other eye by sympathetic ophthalmia? It must be remembered that a serious injury can never leave more than imperfect vision, and that sympathetic ophthalmia, although it may be prevented by enucleation, can seldom, if ever, be cured. When, therefore, there is any serious risk of its occurrence, it is obviously improper to seek to save a damaged eye at the probable, or even the possible, cost of the loss also of the sound one; and the patient should from the first be told that his only safety is in enucleation. In the great majority of cases, although not, I think, by any means invariably, sympathetic ophthalmia is ushered in by some feeling of irritation in the uninjured eye, by impairment of its power of accommodation, and

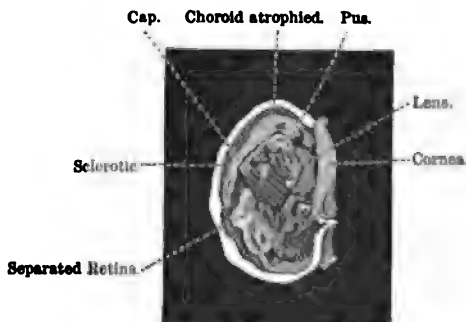
by a sense of strain or weariness when it has been used. In dealing with an intelligent and cultivated patient, therefore—one who is observant of his own symptoms, and not likely to pass beyond the reach of skilled surgical aid—it may often be legitimate to wait and watch the course of events; when in the case of an uneducated person, or of one returning from a hospital to a country district, it might be expedient to operate without delay. In the former class, however, the influence of expectant attention may be itself injurious, and a person who is always on the watch for changes in the injured eye will be liable either to produce them, or to imagine them before they occur. Lastly, whenever an injury is of such a character that enucleation will certainly be necessary, the operation should be performed without delay, and prior to the occurrence of inflammation in the injured organ. In such a case postponement can have no other effect than to prolong the illness and to add to the sufferings of the patient. I advise enucleation without delay when an eyeball is broken up and disorganised by a blow, or by a puncture from a coarse instrument; when the ciliary region is either ruptured or cut through; when any foreign body is lodged within the eye; when, at any period after an accident, there is abiding tenderness of any part of the ciliary region, with liability to conjunctival flushing when the eye is lightly touched for the purpose of examination; or when there is any sense of bony hardness conveyed by palpation of the deeper parts of the injured globe. In some of these conditions sight would necessarily be extinct, in others it might be remaining in some degree; but on the grounds already stated this would have little bearing on the course to be pursued. A seriously-damaged eye can never be worth preserving at the cost of the actual risk to its fellow."

Mr. Bader states that enucleation is indicated "if vision of one eye is lost and if sympathetic changes appear in the fellow eye; if an eye is blind and painful in itself, from whatever cause vision may have been lost; if we suspect the eye to enclose some foreign substance which cannot otherwise be removed." It is clear, however, that these propositions do not embrace all the morbid consequences of an injury which may compel a surgeon to remove the eyeball. An eye retaining vision may, when irritable, and under the conditions pointed out by Mr. Carter, have to be removed. Years may elapse after the injury, says Mr. Wells in his treatise on "*Diseases of the Eye*," and the patient long since have forgotten his surgeon's admonition as to the danger of the other eye, when suddenly the

latter becomes sympathetically inflamed, and, in spite of all our efforts, perhaps destroyed. He cites the case of a man who, twenty-six years previously, had lost the left eye from the presence of a foreign body, the stump atrophying, and at the expiration of this period sympathetic changes set in in the right eye, which were relieved on enucleation of the injured. Mr. Wells also alludes to the possibility of foreign bodies becoming encysted in the vitreous humour and remaining there, not producing any irritation. This is extremely rare; for my part I would, under such circumstances, unless I could *closely* and constantly watch the patient, advise enucleation. In the "Royal London Ophthalmic Hospital Reports, 1875," a case is recorded where, after ten years, the foreign body was causing pain in the injured ball, and was discovered on enucleation. The other eye was not affected. In the same volume (Table 2, page 280, No. 512) is a case of an eye enucleated by Mr. Cowper fifty-one years after an accident which happened when the patient was four years of age—a wound from a fork—and in which the other eye was inflamed for six months previous to the operation. The injured ball in this instance had shrunk, and was painful and watery. A horny cup had formed on interior of choroid. Again, Case 522, in which there had been a wound from a gun-cap fourteen years previously, the eye was blind for ten years, and was painful only for the week previous to enucleation. There was a scar at the sclero-corneal junction; the pupil was gently movable. On removal of the eye there was effused blood in the ciliary processes, and an opaque and tough substance found over the capsule of the lens. The retina was *in situ*. The choroid altered, of a slaty-blue colour, mottled with black. There was no foreign substance in the eye. Nos. 452 and 480 are two old gunshot injuries resulting, one after three months, the other after eight years, causing, at the end of these periods, pain in the first instance and deformity in both. There was no foreign body in either eye. I wish now very briefly to refer to the case which has induced me to make these remarks:—

Master C., eight years of age, was seen by me on December 5th. He was brought a considerable distance from the country; the following injury having occurred two days previously. He was struck by a percussion cap from a toy gun. The eye, when I saw it, had a small corneal wound, which was closed, and which extended across the sclero-corneal junction. The pupil was irregular and contracted. The media were and remained obscured. There was

general congestion of the eye and lachrymation. There was no pain, and but little on pressure. The tension was barely affected, somewhat less. He could discern the shade of the hand. I immediately expressed to his parents the serious nature of the case, and the probability or possibility of a portion of the cap being in the eye. However, I determined to pursue an expectant plan and watch both eyes closely. I used every means to avert inflammation. Finally, finding the atropine had not a good effect on the pupil, I performed an iridectomy. Inflammation then subsided, and the eye appeared to get better. Congestion and lachrymation ceased. The wound completely healed. There was still no pain, and the media were not transparent. Things went on much in this way, and I felt the responsibility of the case much, as there was a great anxiety on the part of the friends that at least the eyeball should be spared. However, on the 26th of December, I noticed that the old wound appeared to soften, and the eye suddenly began to soften and shrink. This continuing on the 27th, and a dull reflexion appearing from behind the lens, I determined to enucleate, and having expressed this decision, did so in the presence of Dr. Gregg, Surgeon to the County Hospital, who agreed with me as to the expediency of removal—Dr. Grattan administering chloroform and ether. The patient was playing about the next day. On examination of the eyeball I found the iris adherent to the lens, the choroid atrophied, the retina completely detached, the lens transparent, a small quantity of pus with blood between the lens and the ciliary processes, and a large portion of the percussion cap embedded in the pus; an exudation had taken place, and a thickening resulted in the site of the wound. The cornea, anterior chamber, and iris, were otherwise healthy.



Internal hemisphere of right eye, containing a segment of a "percussion cap" in posterior chamber; pus removed.

The accompanying drawing of the section of the eye containing the percussion cap was made for me by Dr. Ringrose Atkins, A.R.M.O., of the Cork Lunatic Asylum.

A few points of interest are worth noticing in this case—
1st. The total absence of proof (which was rendered more obscure by the very small wound in the cornea and none in the iris) that the cap had entered the eye. 2nd. The absence of pain from first to last. 3rd. The deceptive partial recovery of the eye, after the first week, in all respects, save the clouded media and total loss of vision. Under any circumstances I should, of course, have been justified, and would have persisted, in enucleating an eye presenting its symptoms and appearances, supposing no foreign body was found. But this was just such a case that, though I confess I waited too long to decide, yet, had I not done so, and had no foreign body or pus been found, the operation, both by friends and others, might have been condemned as unnecessary. I have had patients in hospital, in whom vision was temporarily lost, and blood in the anterior chamber, from gunshot wound, who recovered perfectly, no shot being in the eyeball. A few years since I saw a young gentleman some weeks after a gun-shot injury; the eye was sightless, the ball slightly sensitive to the touch, the media obscured. In this instance I advised and pressed immediate removal of the ball. This the parents would not consent to. The case was taken to London, and there, on enucleation, the shot was found lodged in the eye. I have arrived at these conclusions in reference to enucleation.

If a globe be disorganised by an injury, shrunken, chronically congested, staphylomatous, in whole or part, or be subject to recurrent attacks of choroid-iritis; if it have any pus contained in it or is threatened with ophthalmitis; if any of these states have been complicated with hæmorrhage into the vitreous humour; and, above all, if the eye is painful, it is, I believe, safer to remove it, and not to wait for signs of sympathetic irritation in the fellow eye. This is the more to be insisted on in the uneducated and stupid patient, who may live a long distance from skilled advice. If a globe be penetrated by a foreign substance and contains it, enucleation is immediately indicated. If a globe has been injured, and that we are uncertain of the presence of the foreign body, but that it is of such a nature as that it might enter and leave but a small external wound—as a piece of glass, a grain of shot, a portion of cap, a fragment of steel—we must be guided by the presence or absence of such symptoms as may follow a severe injury when no foreign body can have entered, and as, in the first case, enucleate on their appearance or persistence. While pursuing

an expectant plan, we may, in great part, be helped to the conclusion as to the presence of a foreign body—1st. The nature of the accident and the character of the substance. 2nd. Clouding of the media, hæmorrhage into the vitreous, prolapse of iris, injury to the lens. 3rd. Formation of pus in the globe. 4th. Considerable increase or diminution of tension. 5th. Complete loss of vision. 6th. Sympathetic symptoms in the other eye.

ART. VIII.—*A Case of Cirrhosis of the Liver.** By S. M. MAC-SWINEY, M.D., M.R.I.A., Physician to Jervis-street Hospital.

M. L., aged forty, entered Jervis-street Hospital August 7, 1875.

History.—She was a married woman, and had had two children. Her habits had been for some years decidedly intemperate. She had frequently drank two, and even three, glasses of whiskey in the day. Her health had been fairly good until about six months ago, when she began to feel weak each day. Her appetite failed her, and she experienced, occasionally, pain in her right side, as well as in the region of the stomach. Nevertheless, she continued to follow her customary avocations, and had worked, as usual, as a charwoman during the day of August 7, although feeling very unwell. On coming home that night she took a dose of Epsom salts—a popular remedy for almost all ailments. In about an hour afterwards vomiting came on, and she brought up a large quantity of blood. She vomited repeatedly within the next couple of hours, bringing up blood each time; and finally she was taken, at midnight, to hospital, in a state of great exhaustion, and seemingly dying.

State on admission.—She was pale and cold, and in a condition of almost extreme collapse from loss of blood when received into hospital. Suitable restoratives were applied by Mr. Hughes, the medical “Resident,” and she rallied after some hours. Medical examination, made next day, elicited the following facts:—Her face wore a slightly jaundiced, somewhat dusky, and very anæmic expression. There was tenderness upon pressure over the stomach. The normal extent of hepatic dulness was diminished; that of the spleen, on the other hand, was increased. She had no ascites, no

* Read before the Medical Society of the College of Physicians, Wednesday, Jan. 12, 1876. [For the discussion on this paper, see page 167.]

anasarca, no *œdema*. The urine she passed was small in quantity, high in colour and in specific gravity, and did not contain either albumen or blood discs. She died on October the 4th.

During the eight weeks that she was under treatment in hospital her symptoms presented the following points of interest:— She had great and almost constant irritability of stomach; her thirst for cold drinks was extreme, and she vomited a considerable part of whatever she made use of. Her appetite for food was quite gone. She suffered from severe pain referred to her right side, and she could not sleep by reason of this pain, except through the aid of morphia hypodermically administered. She daily became worse, and manifested new symptoms of serious import. Her feet commenced to swell and “pit” upon pressure. It is noteworthy that the first symptom of dropsy which presented itself in this case was shown in the *œdema* of the lower extremities. To this succeeded, after some time, a rapid enlargement of the abdomen, and soon a very considerable ascites was established. The distress caused by the great accumulation of fluid was so extreme that paracentesis abdominis had to be had recourse to twice, at an interval of a fortnight, and with the effect of giving very great relief to all the troublesome symptoms. After the second “tapping,” the wound made by the trocar did not heal, but a fistulous opening remained, and through it, from time to time, the fluid in the peritoneum drained out. Owing to this circumstance no further accumulation of fluid took place; she was, in fact, in a certain sense, cured of the dropsy. She rallied wonderfully, in every respect, after this second “tapping”—all her more distressing symptoms disappeared, the vomiting ceased, she ate and slept well; she even put up some flesh, and regained a slight colour in her face, which had, up to this time, been sallow, dusky, and noticeably, but not deeply, jaundiced.

On the 4th of October, however, she suddenly started up in bed, vomited a large amount of blood, and was instantly dead.

The following conditions of the principal internal organs were found at the necropsy, viz.:—

1. The liver is much contracted, hard, extensively nodulated, brownish-yellow in colour; on section it presents a granular appearance, yellowish in some parts, dark brown in others, whilst fine white lines run irregularly over the surface of the section. A microscopic examination showed the presence of much fibrous tissue, and numerous cells in every stage of atrophy or degeneration.

2. The spleen is very considerably enlarged; when removed it seemed laden with much dark blood. In no other respect does it present any appearance calling for special notice.

3. The kidneys are indissolubly united, constituting what appears to be but one organ, which is of crescentic shape. There are, however, these two ureters, which are normal in every particular. This specimen, then, is a good example of the blending of the two renal organs into one glandular body.

4. The stomach contained much blood, mixed with some mucus at the time of removal, but it presents nothing abnormal, so far as I can judge, in its structure. Careful examination has failed to detect any evidence of rupture of blood-vessels; there were no extravasation patches recognisable at the time of its removal from the body, but the mucous membrane was deeply and generally stained from imbibition of blood.

The disease from the effects of which this patient died is one which frequently comes under the notice of the physician, and but too often overtaxes his skill to remove; and as there is far from being complete agreement amongst medical men upon many points in the etiology, symptoms, and treatment of cirrhosis of the liver, I beg leave to briefly recapitulate, with a view to the promotion of discussion, some of its characteristics in these respects, which are already well known to my readers.

At least five varieties of chronic atrophy of the liver—"adhesive hepatitis," as it is sometimes called, from its being generally supposed to involve chronic inflammation—are described, which I may enumerate as follows, viz.:—

a. The gin-drinker's liver.

b. Hyperæmia from obstructed portal circulation in diseases of the heart or lungs.

c. An atrophy of the liver where the fibrous tissue is not increased, and, as a consequence, the organ is preternaturally soft, but where, however, the outer surface is granular, or nodulated.

d. Simple induration frequent in the subjects of constitutional syphilis, and also met with in those suffering from heart disease.

e. "Chronic atrophy" of Frerichs—the "red atrophy" of Rokitsansky—often encountered in sufferers from remittent or intermittent fevers.

There is a very general consent respecting the "*predisposing causes*" of the disease, that undiluted alcohol, taken "neat," and habitually, holds the chief place amongst the agents which contribute

to produce the organic lesion. The disease, in fact, is traceable to the intemperate use of spirits in, probably, 99 cases out of 100. Amongst the other causes of the affection are to be enumerated syphilis, and malarious fevers, especially intermittent fever. Amyloid degeneration is usually associated with the cirrhosis from syphilis. And Trousseau (*Clinical Medicine*, Vol. V., p. 119, New Sydenham Society's Translation) adduces strong evidence in support of the view that true cirrhosis of the liver is sometimes due to cardiac disease. Frerichs, however (*Diseases of the Liver*, Vol. XI., pp. 31-34, New Sydenham Society's Translation), denies that the lesion of the liver, resulting from heart disease, is identical with true cirrhosis. Finally, I venture to say that cases of the affection are occasionally encountered, for the originating cause of which the physician is unable, with our present light, to satisfactorily account.

As to the "*immediate cause*," there is not entire unanimity amongst physicians regarding the actual efficient factor of the disease. The investigations of Hallman, Carswell, and, more particularly, of Kiernan (*Philosophical Transactions*, 1833), contributed largely to our present knowledge upon the subject. They showed that an increase of the interlobular connective tissue of the liver was the essential feature of the disease. Its point of departure, in fact, is generally supposed to be a diffused subacute inflammation of the areolar tissue within the interlobular spaces. Beale, however, maintains that the pathological process in cirrhosis is degenerative, and not inflammatory. And he holds that the morbid change originates in the hepatic cells, commencing at the circumference of the lobules, and extending to the centre. Rokitsansky distinguishes two different modes of origin of granular induration of the liver—in the first the capillary blood-vessels are morbidly developed, in the second chronic inflammation of the hepatic parenchyma results in preternatural firmness and density of the organ. Microscopic examination reveals the existence of an abnormal amount of fibrous tissue between the hepatic lobules. This newly-formed tissue pressing upon the lobules causes atrophy of the hepatic cell, and ultimate contraction of the organ. "There is at first a manifest injection, and numerous nuclei, grouped in lozenge-shaped spaces, appear along the course of the small vessels, especially in their external coats. At a later period cells and fibres are developed, and constitute a network which contracts so as to 'impress on' (the) 'parenchymatous' (organ) 'a physiognomy

almost always identical, and altogether special." The liver "is at first increased in size; soon, however, the new tissue contracts, and presses on the acini, so that the liver diminishes in volume, and presents on its surface, or on section, not only a certain amount of induration, but also a finely granular appearance which is quite pathognomonic" (Lancereaux, *Bull. de l'Académie de Méd.*, XXXI., Biennial Retrospect, 1865, p. 73). In regard of the pathology of cirrhosis, I shall at present merely remark that in practice one meets sometimes a cirrhotic liver where the atrophy is extreme, but the tissue is soft and friable; and again, more commonly, cases are seen where the hepatic structure is most dense—thus, no doubt, denoting a large increase of the fibrous tissue. The first instance supports the view of those who, like Beale (*Archives of Medicine*, Vol I., p. 129), hold that in cirrhosis the secreting tissue is simply atrophied, and that the fibrous tissue is not increased; whilst the second example would tend to confirm the opinion of those observers (Budd, *Diseases of the Liver*, p. 136) who maintain that in cirrhosis a chronic inflammatory process causes an increase of fibrous tissue, and a consequent atrophy, from pressure of the secreting tissue. It must immediately occur to every investigator of this lesion to inquire "which of these views is correct?" or "are there two forms of true cirrhosis of the liver?"

Most authorities agree in recognising some increase in the dimensions of the liver in the early stage of the disease. Todd, indeed, was of opinion that the liver was not increased in size at first in cirrhosis, but the observations of Lancereaux and others establish conclusively the fact of some enlargement of the liver as the initial pathological event. The hypertrophy of the areolar framework, and the amount of blood and serous infiltration, account for the increased size and consistency of the organ.

The Spleen in Cirrhosis of the Liver.—This organ has frequently been found enlarged in association with ascites, but its enlargement and the peritoneal dropsy are but rarely, if ever, related as cause and effect. Thus the enlargement of the spleen in intermittent fever does not give rise to ascites, or at least this result follows but extremely rarely. In cirrhosis of the liver the increase in the size of the spleen has usually been referred to the portal obstruction solely; whether correctly so referred or not may be said to be as yet undetermined. The frequency of splenic enlargement in the disease is undoubtedly considerable. Bamberger analysed

sixty-four cases, and found enlarged spleen in fifty-eight. Frerichs found the same lesion in eighteen out of thirty-six cases which he noted. It has also been observed, however, that a calcification of the capsule of the spleen, causing pressure on its vessels, has sometimes prevented its enlargement. In like manner, hæmorrhages or diarrhœa may, by drawing the blood away, diminish or prevent the splenic enlargement. And moreover, in point of fact, we sometimes meet with a small spleen in fatal cases of the disease where no known cause—sufficient to account for such an unusual occurrence—can be recognised.

Jaundice, as a symptom of cirrhosis of the liver, occurs in but a small proportion of cases, and is rarely well marked. The alvine discharges in this disease are usually coloured by bile, and the urine does not contain bile pigment to any great extent. Consequently there is not, as is but natural, well-marked jaundice encountered in the majority of cases. But such jaundiced condition as is met with occasionally results, no doubt, in consequence of the retention of the secretion of the liver, which cannot flow by reason of the compression exercised by the connective tissue upon the commencements of the bile ducts. This compression sometimes causes a deposit of pigment in the cavity of the cells, in the form of fine orange or sulphur-yellow granules.

Hæmatemesis is another occurrence rather frequently met with in cases of cirrhosis of the liver, and one which was experienced in the case I have to-night related. It has been computed that hæmorrhage from the stomach takes place in about six out of forty cases of this disease. Sometimes—as in the case I now report—it precedes the ascites, but this is a rare event. It is much more apt to occur as the disease advances. The minute vessels of the mucous membrane, greatly distended with blood, rupture, especially if the collateral circulation be not sufficiently well developed. And occasionally—but in my experience not frequently—the loss of blood is so sudden and considerable as to cause immediate death to result.

Ascites is one of the most common and serious of the consequences of cirrhosis of the liver; it is unaccompanied by pain, and is due, doubtless, to mechanical transudation of serous fluid consequent upon the obstruction to the portal circulation caused by the disease in the liver.

In the treatment of this symptom the question often presents itself to the physician, “Should *tapping* be had recourse to?” and

in the event of an affirmative decision, then the further question arises, "At what period of the disease should this operative procedure be undertaken?" Some authorities are of opinion that, though temporary relief may be obtained by the operation, life is not thereby prolonged in the majority of cases. On the other hand, many regard *paracentesis abdominis* as a safe and proper remedy which often gives great relief, and sometimes averts the disease for months and even for years. Amongst the latter class I take leave to rank myself.

The diagnosis, as is known, is often very difficult to determine; it is arrived at by the way of exclusion rather than by any positive signs, and can seldom be more than inferred in the living body, although, no doubt, the area of hepatic dulness is generally diminished, especially that over the left lobe, and the presence of ascites usually indicates the line of research. Prior to the occurrence of the ascites there are no symptoms presented by cirrhosis of the liver which point to that organ as the seat of the disease. Sometimes, though I think very rarely, the irregularities on its surface may be felt through the walls of the abdomen. But when no general dropsy is present, then peritoneal dropsy, known to be dependent upon cirrhosis of the liver in so large a proportion of cases, may be safely referred, with a strong probability of correctness, to the liver. Oedema of the lower limbs is a less certain sign of hepatic cirrhosis; it occurs in a very considerable number of cases of the disease, appearing at one time before the peritoneal effusion (an event of rare occurrence); at another time succeeding to the abdominal dropsy. In the case I have brought forward to-night it preceded the peritoneal dropsy. There is much difficulty, in my opinion, in accounting for its early appearance, before the other symptoms of dropsy had arisen; and, indeed, I entertain a decided impression that the entire question of *oedema*, as regards its immediate causation and significance as a symptom, is in a state of great uncertainty at present, and requires complete revision.

There are, I venture to say, few diseases to be met with which present such a number of unsolved or disputed questions on points of importance as cirrhosis of the liver. Thus, at present, the following inquiries, relating to various features of the disease, still remain to be answered:—

1st. Whether is it an inflammatory exudation or a degenerative process which precedes the atrophy of the liver in cirrhosis?

2nd. Is true cirrhosis ever due to any other cause but drinking undiluted spirit? And if it be sometimes due to other causes, which is the generally-received doctrine, then—

3rd. What are the other causes of true adhesive hepatitis?

4th. Is the disease caused by spirit-drinking different to the other forms, not only in cause, but also in its anatomical characters?

5th. Are the different so-called varieties of cirrhosis, which are often undistinguishable by their symptoms during life, anatomically distinct?

6th. On what does the swelling of the spleen in this disease depend?

7th. Can the disease be cured in the early stage?

8th. What is the nature of those cases where the symptoms are absent during life, and the disease is for the first time recognised at an autopsy?

It is to be hoped that ardent investigators in the department of medicine will, ere long, clear up whatever is difficult or obscure in the etiology and pathology of cirrhosis of the liver; meantime, I shall now only further observe that the following constitute, in my opinion, the chief points of interest in the foregoing case:—

a. The suddenness of the invasion of the symptoms.

b. The severe gastro-enteritis from which the patient suffered the greater part of the time.

c. The fact that the œdema of the lower extremities distinctly preceded the occurrence of the ascites.

d. The treatment by “tapping,” which was followed by—

e. The fistulous opening in the abdomen.

f. The sudden death after profuse hæmatemesis.

ART. IX.—*Tracheotomy in Croup.** By WILLIAM THOMSON, A.B., M.D.; Fellow and Member of the Surgical Court of Examiners, Royal College of Surgeons, Ireland; Surgeon to the Richmond Surgical Hospital, &c.

I WISH to bring before the Society this evening a subject that is not new, but my apology must be its importance and a desire to elicit discussion regarding it. Croup and its treatment form one of the most difficult questions in surgery, and it is to the latter that I intend to ask the attention of the members for a short time. I

* Read before the Surgical Society of Ireland, Friday, January 21, 1876.

will first give the notes of some cases that have come under my own notice, and then append such general observations as may appear to bear upon them.

CASE I.—On Sunday evening, 16th August, 1874, John Carr, aged five years, was admitted to the Hardwicke Hospital, under the care of my colleague, Dr. Gordon. He was a healthy-looking, chubby, fair-haired, blue-eyed boy, and had been reared at Howth. Three days before his admission he had become unwell, and had gradually grown worse until he was brought into town. He was seen by Dr. Gordon immediately, and was pronounced to be suffering from well-marked croup. There was no pharyngitis, no sign of any membrane about the tonsils or pharynx, but the croupous inspiration and cough were well marked and unmistakable. His mother stated a fact of much interest—that his sister had been admitted to Sir Patrick Dun's Hospital a week before with diphtheria, from which, as I afterwards learned, she recovered. On his admission to hospital he was put to bed, rolled in warm blankets, and had linseed meal poultices applied to the throat at frequent intervals, while he was ordered to have a mixture containing squills and ipecacuanha. He passed an uneasy night, the breathing being rapid and the pulse high. Towards morning the symptoms became more urgent, and at times he seemed to be almost asphyxiated. At half-past ten he was seen by Dr. Gordon and Dr. Gerald Yeo. He appeared to be dying. His extremities were cold, his face was pallid and puffed, the breathing was very difficult, and there were general indications of collapse. An examination showed that air was entering his lungs, and there was fair resonance. A blanket steeped in hot water and mustard was wrapped round his body, and he rallied sufficiently to be able to recognise his parents; but Dr. Gordon saw that the case was hopeless unless surgically relieved, and he accordingly at once sent for the late Mr. Hamilton, who happened to be the surgeon on duty. In a few minutes all the surgeons—Mr. Hamilton, Mr. Stokes, Mr. Thornley Stoker, and myself—were at the patient's bedside, where we had the advantage of consulting with Drs. Banks, M'Dowel, Gordon, and Lyons. The child was at that time almost moribund. He lay upon the bed making feeble efforts to get breath, his face blanched and bathed in cold sweat, his lips quite blue. There was no hesitancy upon the part of any one as to the propriety of an operation. The child was plainly dying of apnoea, and the

immediate indication was to relieve that condition. Mr. Hamilton asked me to undertake the operation. The child was at once moved to the end of the bed, and with the assistance of Mr. Stokes and my other colleagues the trachea was opened. It was the first time that I had performed the operation, and it was very forcibly impressed upon me that it is not an easy one. Before an opening was made the child appeared to be dead, and it was not altogether cheering to be assured that that event had actually occurred. But the opening into the trachea (involving the 1st-3rd rings) and the introduction of the tube was followed by a fit of coughing which gave us hope. A quantity of thick yellowish shreddy material was ejected through the tube. For several minutes, however, it was necessary to continue means of resuscitation, and at last we were rewarded by seeing consciousness restored. Within half an hour he was laughing, playing with a toy, and holding such intercourse with his parents as he was able.

He was removed to a small ward at once, where the temperature was kept rather high, and the steam from a kettle was allowed to escape close to his head. He was carefully nursed by Dr. Farrell (lately appointed Assistant-Physician to the Mater Misericordiæ Hospital), Mr. Mark M'Donnell, and Mr. Nixon. During the day the respirations were easy and greatly diminished in frequency; pulse 126. He was able to take nourishment without difficulty, although some milk came through the tube at first. His bowels were moved five times, the stools being of a light green colour.

Tuesday—Did not sleep well. About 8 a.m. had a sudden attack of dyspnœa. There was great lividity of countenance, but the obstacle was caused by a pellet of lymph, of the consistence and colour of crude honey, which blocked up the tube. This was removed and cleaned. At 2 o'clock the temperature was 103°; pulse 140; respirations 50. Dr. Gordon saw him and ordered a mixture containing liq. ammoniæ acetat. and squills. The diarrhœa still continued; the stomach would not retain nourishment. At eight o'clock in the evening temperature was 105°; pulse 170; respiration 55. From that time he gradually continued to sink, and died quietly at eleven o'clock, thirty-seven hours after the operation.

The *post mortem* examination revealed the existence of a tough, false membrane throughout the track of the air-passages from the larynx down. It was of a very pale pink, easily separated from the mucous membrane, and about half a line in thickness. The

interior of the larynx, with the vocal cords, were covered with it, and it could easily be traced to the smaller bronchial tubes. The lungs themselves contained some air, but were, generally speaking, oedematous. There was no trace of membrane extending beyond the larynx into the pharynx.

CASE II.—Michael Kelly, aged eighteen months, a plumpy and healthy-looking boy, although small for his age, was admitted to the Richmond Hospital at ten o'clock on Saturday morning, July 24, 1875, having been presented at the medical dispensary under Dr. Harvey's care. I saw the child half an hour afterwards. He was suffering from severe dyspnoea. He was, however, still strong, and tried to resist any effort to examine his chest, although I was able to satisfy myself that air was entering the lungs. The inspiratory sounds were strongly accentuated, but there was no cough. The face was pale. The mother said the child had had a cold for a week, and the symptoms had only become urgent the night before his admission. I afterwards learned, however, that she had not seen the child for a week. I had the little patient at once placed in a small ward, so that the temperature might be regulated. A constant jet of steam was discharged by means of a pipe in the neighbourhood of the patient's head, but sufficiently far not to be unpleasant. He was ordered to have a grain of calomel every hour until the bowels were moved, and a consultation was summoned for 12 o'clock. Owing to various circumstances none of my colleagues could come. On my return matters were much worse. The child was evidently dying. His lips were blue, his face pale, his eyes half closed and dull, the pulse small and so rapid that it could not be counted, while he lay in bed gasping for air, and throwing his arms about. I determined to operate at once, and having obtained the mother's consent I did so. I was very ably assisted by Dr. Stack, the resident surgeon, who throughout paid the most unremitting attention to the case; by Dr. S. Gordon, jun., and others. The operation was quickly performed. Having cleared everything from the trachea, I placed the forefinger of my left hand upon it, and using my nail as a guide, slipped the blade of a Paget's knife, held short by the thumb and finger of the right hand, between two rings above the isthmus, and divided the 1st, 2nd, 3rd, and 4th. There was no need to "plunge" the knife into the trachea. The word is a misleading one, and ought not to be used without some qualifying expression.

The ordinary bivalve canula was then introduced. On making the opening a quantity of purulent sticky matter was shot through it with some force. Then there were a few feeble attempts at respiration, but these ceased and the child seemed about to die on the table. Dr. Stack immediately used the Sylvester method of artificial respiration; the body was flicked with a towel, water was sprinkled over the face and wine poured down the throat, but all seemed equally unavailing. An ounce of wine was then injected into the rectum, and after some time the child began to revive. He was put to bed, rolled in warm blankets, and then gradually recovered. Before the operation the respirations were 54; afterwards they speedily fell to 30, the pulse to 148.

At the evening visit the change was remarkable. No one would have thought that he was otherwise than perfectly healthy. The nurse was feeding him with milk, and he took it with evident relish. His eyes were bright and intelligent. When the milk was withheld from him he managed to help himself. At four o'clock his temperature was 104°; pulse, 160; inspirations, about 35.

The bowels having been moved three times before my arrival, the calomel was stopped, eight grains having been administered. With this exception the treatment was continued. Up to twelve o'clock all seemed favourable, but the child then began to sink, and died about two o'clock, convulsed.

The *post mortem* examination showed great engorgement of the lungs. The glottis was almost blocked up with a pale tenacious membrane, which extended throughout the course of the trachea but not beyond it, the bronchi remaining free. In neither case was an anæsthetic used.

CASE III.—I was asked by Dr. Gordon, some months ago, to see a case of croup in which the expediency of interfering by operation had been considered. The patient was a delicate boy of about fourteen years of age, and had been suffering from the disease for some days before I saw him, having only recovered from a smart attack of pleuro-pneumonia. Shortly before our arrival he had expectorated a false membrane, forming an accurate mould of the trachea. When we entered the room he was sitting up in bed, leaning upon one hand, and making vain efforts to fill his lungs with air. I shall never forget the appealing look for help which he gave us. Both auscultation and percussion proved

that the lungs were almost airless, and the fact that the trachea had just been cleared without giving relief showed that the bronchi were blocked up, and that any surgical treatment would be unavailing. In an hour afterwards he was dead. No *post mortem* examination was obtained in this case.

These cases are sufficient to illustrate different phases of the disease; and although in the two in which I operated when the child was dying, life was not saved, I do not think I am claiming too much when I regard them as strongly justifying surgical interference. The treatment of croup has followed two very distinct lines—that of medication and that of operative procedure. In the first have been included tartar emetic as a depressant, or to produce its specific action—mercury, blood-letting, alkaline salts, iron, and a great variety besides. The practitioner is in a state of almost hopeless perplexity when he comes to treat his first case of croup. He finds one authority pinning his faith strictly to tartar emetic, another to mercury, another condemning both these, and contending that the surest reliance is to be placed on chlorate of potash and iron, or quinine. But there is one point upon which, until a comparatively recent period, there has been tolerable unanimity—viz., that tracheotomy is not to be entertained as a method of treatment except under circumstances which we now know give little chance of its being successful. A change, however, has been gradually effected in respect of the propriety of this operation, and of late years the successes of French surgeons have compelled more attention to it in England, Scotland, and America. In Ireland, however, this is not so. The cases are very few in which the remedy has been applied, and I think it may fairly be stated that Irish practitioners are still ranged with the opponents of tracheotomy in croup or diphtheria. The discussions which have taken place in this Society from time to time, and more particularly upon a paper by my colleague, Mr. Corley, in 1870,^a clearly indicate how general professional opinion stands in regard to it. The cause is not far to seek. We have a great respect for authority which is dignified by culture, boldness, and decision; and so we find that the teaching of a late distinguished Professor of Surgery of this College—Mr. W. H. Porter—still influences surgeons against the undertaking. Mr. Porter has declared no uncertain opinion upon this subject, and we have him expressing his

^a Med. Press and Circular. April 27, 1870.

satisfaction at the general reception of that opinion thus:—"In this country I have not for some years heard of tracheotomy having been seriously proposed for the relief of any form of croup, and I feel considerable satisfaction in the reflection that I have in some small degree contributed to the establishment of so desirable a practice." These words were written thirty-nine years ago, when the operation was rarely practised. But I cannot doubt that had he lived until now, and thus been conscious of the wider knowledge that has come to us concerning this proceeding, and the more favourable results, he would, like Professor Spence, be found among the advocates of it.

I do not intend to speak of any other aspect of the question than the operative. It will for my purpose be more profitable to consider some of the points which have been urged against tracheotomy, and which have served to strengthen, if they have not created, the opposition to it.

One of the first is that it is a very fatal operation. That is unfortunately true, but it is not a fair ground of objection. If we adopt it we at once put an end to all surgical work, for there is no part of it in which the surgeon can guarantee security against death. There is a high average of fatality in a great number of operations that are unhesitatingly undertaken by surgeons every day. So ordinary a proceeding as amputation gives an average death-rate of 38·72 per cent. after injury, and of 26·12 after disease. Descending to particulars, amputation of the thigh gives a mortality of 57·41 after injury, and of 27·23 for disease, or an average of 41·60. Tracheotomy in croup has been followed by a death-rate which ranges from 60 to 90 per cent., while in groups of cases it has given a much less per-centage. In judging of relative mortality, however, it must not be forgotten that all the conditions are in a majority of cases unfavourable to success. The child has usually been ill for some days, and is brought into hospital in the last stage, not having been under medical care at all. Or it may be that he has been in the charge of one who, having reliance upon medicinal treatment, has waited in vain to see the symptoms improve under the influence of mercury or tartar emetic. The patient is almost comatose. His lips are blue, his face pale, his lungs have become engorged owing to prolonged obstruction, the blood is loaded with carbon, and every beat of the heart is sending to the nerve centres so much poison. Is it at all strange that under such circumstances there should be a high death-rate? The

patient has already had his vitality almost hopelessly impaired. The lungs and the nervous system have no time to recover their tone, and the little sufferer, after the first faint flicker, gradually sinks and dies. If in the ordinary run of surgical cases conditions were of a similarly unfavourable nature, we should hardly be surprised at a high mortality.

But as bearing upon the question of death-rate, it will be interesting to look into some statistics of the results of this operation in different parts of the world in croup and diphtheria. The earliest were collected in 1839, and were reported to the Parisian Academy of Medicine. In those days tracheotomy was in general disfavour, and 140 cases gave only 28 recoveries, or 20 per cent. Of these Trousseau contributed 80, with 20 recoveries, or 25 per cent. In 1858 three separate lists showed 175 cases, with only 10 successes, or 5·7; 150, with 57 successes, or 38 per cent.; and 185, with 74 successes, or 40 per cent.

In the Hôpital des Enfants Malades, up to 1849, the operation had been performed 49 times with one recovery. After that date there were—

	Operations	Recoveries
From 1850 to 1862,	991	233
Hôpital Sainte Eugénie—		
From 1854 to 1869,	1,261	299
	<hr/> 2,252	<hr/> 532

or 23·6 per cent.

American records show a total of 325 operations, with 84 recoveries, or 25·8 per cent.

I am not able to place before the Society statistics of the operation in this city or country. It has been very seldom performed here in cases of croup or diphtheria. But I may record these figures regarding English and Scotch practice:—

	Operations	Recoveries
Spence,	103	34
Buchanan,	46	17
Cruikshank,	11	8
Whittle,	11	10
Fuller,	7	3
H. Smith,	3	0
Ransom,	3	0
C. Evans,	5	1
Howse,	3	3
	<hr/> 192	<hr/> 76 = 39·5 per cent.

The figures which I have given include operations performed on patients at all ages; but Bourdillat shows that there is a direct relation between age and result. Thus,* while few "under two years are saved, very few over eight or nine, and adults seldom or never;" the largest number of recoveries appears to be from $5\frac{1}{2}$ years to a little over six.

Under	2 years,	3 out of 100
At	2 "	12 "
From	$2\frac{1}{2}$ to 3 "	17 "
"	$3\frac{1}{2}$ — 4 "	30 "
"	$4\frac{1}{2}$ — 5 "	35 "
"	$5\frac{1}{2}$ — 6 "	38 "
Above	6 "	41 "

The per-centages noted above show nearly 40 per cent. of recoveries—a result which may fairly be asserted to be brilliant in view of past failures. Remembering that in the greater number of cases the patient was in *extremis* when the trachea was opened, and that by more or less prolonged obstruction to respiration he had conditions present which invited a fatal termination, I think there cannot be a doubt that a large number were saved from death by the operation. That is a fact which a surgeon can scarcely fail to realise.

But, after all, in viewing a question of this kind we ought not to be bound up rigorously by statistics; and still less should we be deterred from interfering because death will probably occur, and we may have to bear some odium. As a matter of fact, there are many procedures in surgery in which we ignore statistics. We operate with one of two objects—to cure or to palliate. We amputate at the hip-joint because we give the patient a chance of life, although a very distant one, or relieve him temporarily from suffering. We amputate breasts for malignant disease, although we know that the affection almost invariably returns, and that the patient's life is not much prolonged. And yet surgeons who do these things will refuse to make an opening in a child's trachea in a case of croup or diphtheria, the prominent symptom being the local obstruction. Surely, if death do follow it is a less terrible one than that which shocks the feelings in a case dying of slow suffocation. I confess I am quite unable to appreciate the grounds

* Cohen on Croup. Pp. 21 and 23.

upon which the resistance is made. It seems to me that it would be as reasonable to decline to interfere in a case of strangulated hernia because the surgeon thought the gut was gangrenous and that the patient would probably die.

One who has had more experience of tracheotomy than many now living, having operated in over 200 cases, thus declares his opinion:—"For my part I am quite determined not to allow myself to be discouraged, but to preach tracheotomy with the greater conviction in proportion as its success increases, and did the proportion remain what it was ten years since I should still proclaim the necessity of the operation, nor cease to say that it becomes a *duty*—a duty as imperative as the ligature of the carotid artery after a wound of that vessel, though death follows the operation as often certainly as recovery;" and from very many strong advocacies of the proceeding, I may further quote these words of Rilliet and Barthez^b—viz.: "The utility of tracheotomy in the treatment of croup cannot at this day be denied; numerous cases of children snatched from a certain and imminent death reply victoriously to any doubts that may be raised as to the truth of this assertion."

In England and Scotland, such successes as those of Spence, Buchanan, Whittle, Marsh, and others, speak irresistibly on the same side.

There are other objections which have been urged against the operation, such as the accidents which may occur while it is being performed and the complications which may subsequently arise. But surely there is no surgical proceeding which may not be so opposed. Arguments of this sort prove too much, and are hardly deserving of a serious reply. It is alleged, also, that the admission of air to the lungs, without having passed through the nares or mouth and so obtained warmth, is apt to produce bronchitis and pneumonia. That difficulty, however, is now got over by means of a moistened atmosphere, of elevated temperature, such as I have referred to in the notes of two of the cases.

There are some points in connexion with the indications for operation and the site of the opening, to which I may briefly refer. Professor Porter thinks there can be no object in operating when the membrane is red and swollen in the first stage. The incision will more likely aggravate the disease. "When the

^a Trousseau. *Archiv. Gen. de Méd.* Mars, 1855, p. 259.

^b *Mal. des Enfants.* 2^{me} ed., t. i., p. 337. Meigs and Pepper, 105.

adventitious membrane has been formed, there is some reason to think that in the great majority of cases sufficient mischief has been already accomplished to render the recovery very problematical" (page 38). But there can be no doubt that, even in the non-exudative stage, operation may be necessary, for there may be apnoea from simple spasm of the glottis, or from the temporary paralysis of the expanding muscles of the larynx (Niemeyer.) There is no sign by which we are able in every case to determine the presence or absence of deposit, and we must therefore be led by the general symptoms. Heuter points out that there is one symptom of special importance which indicates tracheotomy—namely, the sinking inwards of the anterior wall of the thorax, especially of the lower end of the sternum. When to this is added the well-known abnormal action of the nostrils which always occurs in marked difficulty of respiration, and the blue colour appears in the lips, he at once proposes the operation. Spence and others hold very much the same view. The great danger, I think, lies in waiting too long, and thus allowing the patient's strength to run down. The exhaustion brought about by the struggles to breathe is increased by the impure blood and the consequent impairment of the functions of the principal organs. I do not at all advocate recourse to the knife in the earliest stages, but when the indications of serious and increasing obstruction are evident, I think the surgeon ought speedily to interfere. The disease is so rapid in its progress and its effects that there is no time for the ordinary remedies to act satisfactorily. To continue depressants then will only further lessen the chances of the patient's recovery. Calomel will not remove the membrane any more than it will cure a strangulated hernia. The one prominent symptom is apnoea, and in the present state of our knowledge we must rest satisfied with treating that. In such a case I think our course is clear. What is needed is air, not medicine; an opening in the trachea, not mercury.

A case in which operation was proposed and refused was brought under my notice by my friend, Dr. Francis B. Kane, now of San Francisco. It occurred in his practice as Surgeon of Jervis-street Hospital in this city. I had an opportunity of examining the parts after death, and I freely joined in the regrets that were expressed that the trachea was not opened. The disease was confined to the larynx, which was almost shut off from the trachea by a horizontal septum. The trachea and bronchi were

without any deposit. In this case there seems every reason for saying that life would have been saved had the operation been performed, and air been admitted to the lungs, and that no amount of medicine would have rescued the child from death.

A question upon which a good deal has been written is, the portion of the trachea which should be opened. Very many practice the incision below the thyroid isthmus, chiefly because we are more likely to get beyond the situation of the membrane should it be confined to the trachea. But it may fairly be objected to this operation, that it is one of much difficulty and of no little danger. In an infant the knife comes into alarming closeness to very large vessels, and I have seen severe hæmorrhage occurring from the wounding of an engorged thyroid vein. Holmes, in his recently-published work, mentions that he lost a case by wounding a branch close to the innominate vein. There is increased difficulty in introducing the tube, and in the subsequent progress of the case a danger of wounding the innominate vein by the edges of the canula. Howse (*Guy's Hosp. Reports*, 1875, p. 503) states that he has seen two fatal results from this cause, not to mention ulceration of the trachea by the tube tilting against it. In both cases in which I operated I adopted the higher incision. In the first there was a little bleeding from a wound in the isthmus; in the second not a teaspoonful of blood was lost. The trachea was exposed with comparative readiness, and in neither was there any difficulty in introducing the tube. Heuter advises that the cricoid should be divided, but those who practice the high operation generally stop short of it.

I am not, of course, to be understood as advocating tracheotomy as an exclusive line of treatment. I believe that medical treatment often does good, but that it more often fails, and my only wish is to have this operation recognised as a more reliable aid than it has hitherto been. Formulating my views, I may put them thus:—

I. Croup may be treated medically in the early stages.

II. If the disease advances and obstruction increases in spite of medicine, tracheotomy ought to be undertaken, the symptoms already mentioned being looked for.

III. The danger of aggravating the disease by opening the trachea is exaggerated, and is, with ordinary precautions, *nil*.

IV. Even as a palliative measure the operation is justifiable, and, considering the chances of recovery, ought to be recommended.

V. The opening is more easily made above the thyroid isthmus, and is as effectual as when made below it.

VI. The operation ought to be undertaken early, at the onset of the graver symptoms, and when medicine has failed to stay the progress of the disease.

I have extended my observations to a greater length than I purposed, but the importance of the subject must be my excuse. I am anxious that in Ireland we should not look with so much distrust upon tracheotomy, or present an unbending opposition to its more general adoption. For myself, I am quite satisfied that it is a proceeding not only justifiable but demanded at the hands of the practitioner in a large number of cases that come under his notice. The prejudices and misfortunes that surrounded the operation of ovariectomy were no less strong and discouraging, but they have both been overcome by the perseverance of its advocates. With experience have come increased skill and knowledge, until that operation stands admittedly the greatest triumph of modern surgery. I believe that the reasonableness of operative interference in croup will commend itself to Irish surgeons, and that it will in time present a more favourable result than that which I am able to lay before you. In conclusion, I may quote the words of the distinguished Professor of Surgery at Edinburgh, Mr. Spence:—

“I think it right, however, to warn my younger brethren that it will require some effort to bear up against discouraging results. I know of no class of cases in which the experience is so painful—an average gives no idea of it. You may have five or six cases in succession all proving fatal before you meet with one redeeming success; but then you have the temporary relief almost invariably afforded to the little sufferer; the resuscitations in some cases apparently dead; and if you persevere the average of success will come. Above all, we must recollect that however disagreeable or unpleasant the operation may be to ourselves, we are bound to lose sight of that to give the patient the only chance for life.”

* Address in Surgery. Brit. Med. Journal, Aug. 14, 1875.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES

Die Resultate der Gelenkresectionen im Kriege. Von E. BERGMANN, Professor der Chirurgie in Dorpat. 4to. St. Petersburg and Giessen. 1874.

THIS monograph is illustrated by twenty interesting Alberto-type illustrations, showing the final results of a large number of the author's operations on joints during the Franco-German war. The author, in the introduction to the history of these cases, remarks on the great difficulty of learning the subsequent fate of patients operated on during war-time, even when he was placed under favourable circumstances, in a Reserve Lazereth. In ambulances on or close to the field of battle it is scarcely possible, as the reviewer knows from actual experience, to trace the ultimate results of operations, except, indeed, where these prove shortly fatal—the system of “evacuations” in rapid succession from one place to another rendering the trace of any given case most difficult to discover. In this respect Professor Bergmann was placed, however, in fortunate circumstances, his work being in the Lazareths of the Reserve established in Mannheim and Karlsruhe, from which the patients went to various convalescent hospitals, where their subsequent history was recorded.

Thus has the author been able to present complete accounts of nine cases of elbow-joint excision. Two of these died, and five of the seven remaining recovered with an ankylosed joint. Fifteen cases of excision of shoulder-joint are given, with three deaths, and eleven cases of ankle-joint excision, with two deaths.

For the details of these cases, which present many features of interest, the reader must be referred to the work itself.

Most of the operations were secondary, and the joint in a condition of suppurative inflammation, so that the chief difficulties of diagnosis were removed.

Professor Bergmann performs excision of the elbow in all cases of suppurative inflammation following gunshot injury, and this followed in every case of wound of the joint except one where the

bones were uninjured, and the capsule alone opened by the bullet. Immediate relief of the fever and speedy abatement of the symptoms always followed the operation.

Partial operations were performed where the condition of the injured bones admitted of it, and the after-progress of the cases proved quite as favourable when portions of cartilage-covered bone were left, while the chances of a flail joint, which is so apt to follow any very extensive removal of the component bones of the joint after injury, are diminished.

In one of these partial operations ankylosis followed, a result, of course, greatly preferable to a flail joint, while in another almost complete power of motion was ultimately attained, although the ulna was removed below the insertion of the brachialis anticus, and the annular ligament of the radius had to be sacrificed also. The longitudinal incision of Langenbeck at the back of the joint was the method employed. The author, properly, lays much weight on careful after-treatment, and the success which follows the Faradisation of the atrophied muscles in the later stages.

The author's operations on the shoulder were all secondary, and here he also observed the antiphlogistic effects of the operation. This the reviewer has also remarked in cases of his own. The swelling, previously perhaps enormous, begins to subside. The constantly recurring secondary hæmorrhage disappears, the suppuration diminishes, and the wound cleans. We can readily explain this by reason of the removal of the much-splintered and often necrosed fragments of bone, which keep up the irritation. In some cases Professor Bergmann, however, did not observe this fortunate result; the temperature and fever, on the contrary, increased.

The reviewer believes that necrosis, more or less extensive, of the shaft of the humerus is very apt to follow excision either of its upper or lower end for gunshot injury, and this opinion is borne out by several of the author's cases. In most of the cases the motions of the forearm and elbow remain perfect or nearly so, and this although the shoulder might be a mere flail and useless joint.

In five of the ten cases of ankle-joint excision the patients progressed most favourably. In four cases severe abscess and caries resulted, and the after-treatment required a protracted period, but not longer than would the expectant method, had it been had recourse to in place of operation. Beck, it must be remembered, however, has had most successful results, by resorting to early and very free incision into the joint, and of forty-two cases of gunshot

injury of the ankle-joint, with implication of the bones, treated expectantly, only eight died under this treatment.

Stromeyer, in his translation of MacCormac's "Recollections of an Ambulance Surgeon," is opposed to formal resection of the ankle. He prefers the expectant treatment, with removal of comminuted fragments of bone, and in the more severe injuries recommends amputation as often necessary in order to save life.

Bergmann, with much candour, laments that in mostly all his cases an unfavourable position of the foot resulted, which he attributes to want of sufficient attention to preserve the foot in the only position in which, after cure by ankylosis, it can be useful in progression—namely, exactly at a right angle with the leg.

On nothing has Langenbeck more strongly insisted than on the never-ceasing care required after resection of the ankle to preserve the foot exactly at right angles, and not to allow the slightest eversion nor inversion. If this be not done the foot is an incumbrance to the patient ever after. If, on the other hand, Langenbeck's precautions be attended to, results are possible like the brilliant ones that distinguished surgeon has obtained himself—one of his patients having been able to climb Monte Rosa without unusual fatigue, and another to serve as lacquey in the palace at Potsdam, where the appearance and functions of his lower limbs required to be perfect.

Ankylosis should be always sought for, although some good results may have been attained with a mobile joint. The medio-tarsal articulations acquire a compensating power of motion for that lost in the tibia-tarsal articulation. Above all, any pointing downwards of the toes must be guarded against—it is fatal to the patient's future power of walking.

It was first pointed out by Langenbeck, in his exhaustive work on the final results of excisions of the joints during war, that the reproduction of bone, after traumatic resection of the ankle-joint, is more irregular and incomplete than after operations for disease. In three cases partial resections were performed, and here it is still more necessary to be attentive to his position of the foot during the after-treatment, for the tendency to assume a bad position will be greater.

To those interested in the subject, Professor Bergmann has furnished a mine of valuable information, carefully and candidly elaborated, which will form a useful supplement to Von Langenbeck's contribution to his Archiv on the *Endresultate der Gelenk-resectionen im Kriege*.

Guy's Hospital Reports. Edited by H. G. HOWSE, M.S., and FREDERICK TAYLOR, M.D. Third series. Vol. XX. London: J. & J. Churchill. 1875. Pp. 624.

THE current volume of these valuable Reports contains several excellent papers, which render it one of the best of the many good numbers of the series that have lately been issued. The title—Hospital Reports—is fully borne out by the records of cases, on the surgical side, by Messrs. Cooper Foster, Bryant, Howse, and Davies-Colley; and, on the medical side, by Drs. Habershon, Hilton Fagge, F. Taylor, and Moxon. Other papers on various special subjects give the volume a general interest to every member of the profession, be he a specialist or not, and accounts for the popularity of Guy's Reports, and the large list of subscribers it has. Old Guy's men especially are to be congratulated at having an opportunity, such as is afforded by a publication of this kind, of again, as it were, becoming students of their Alma Mater, and of acquiring, as any one who studies these pages assuredly will, new information and experience from the work done in its wards and laboratories.

It would be impossible in such a necessarily brief notice as the present to enter into either a critical or analytical review of the twenty-three papers this volume contains. We would particularly indicate, however, as being of especial merit, Dr. Hilton Fagge's "Observations on some Points connected with Diseases of the Liver or of the Peritoneum," and Mr. Bryant's "Report on Operative Surgery." The latter paper is, in reality, a valuable monograph on cancerous tumours of bone, and is illustrated by seven lithographic plates and a woodcut.

The principal points treated of in Dr. Fagge's valuable paper are—jaundice, in its several forms; diabetes; cirrhosis of the liver; the different causes of ascites; peritonitis, and the diagnosis between the different forms of peritoneal effusion. Dr. Fagge writes in a terse and practical style, and corroborates his opinions by frequent references to the numerous *post mortem* records of the hospital. Dr. Habershon contributes two papers, both of much clinical interest, and Dr. Moxon reports very fully eight cases of "Insular Sclerosis of the Brain and Spinal Cord" (*sclérose en plaques*), with the *post mortem* appearances (illustrated) in two of the cases. In connexion with Dr. Goodhart, Dr. Moxon has also

an important paper "On the Presence of Bacteria in the Blood and Inflammatory Products of Septic Fever, and on the Cultivation of Septicæmia." Ophthalmic Surgery is represented by Messrs. Bader and Higgins. Dr. Galabin describes a cardiograph he has constructed on the plan of Marey's sphygmograph, and gives a lengthy explanation of the evidences which, he believes, cardiographic tracings afford as to the causation of mitral murmurs in general, and the presystolic in particular.

The General Index to Volumes XI.-XX. is appended to this volume.

Aids to Anatomy. By GEORGE BROWN, M.R.C.S., L.S.A.
London: Baillière, Tyndall, and Cox. Dublin: Fannin & Co.
1876. Pp. 64.

WE cannot recommend this small pocket-book of anatomical facts to the student. It is crude and imperfect, and the subjects with which it deals are badly arranged. Its object is to place before the student, in a condensed form, those facts which he "must know *by heart* before presenting himself for an anatomical examination, should he wish to pass with credit." Viewing it even in this light, we cannot call the book a success. Its tendency is, we believe, injurious, and it can but encourage the student in substituting superficial "cramming" for honest and lasting work. The book may serve a useful end in warning examiners against those questions which would place the good anatomist at an examination on a level with the competitor fresh from the "grinding room."

Lectures on Bright's Disease, delivered at the Royal Infirmary of Glasgow. By D. CAMPBELL BLACK, M.D., L.R.C.S., Edin.; author of "Observations on Therapeutics and Disease;" "The Functional Diseases of the Urinary and Reproductive Organs," &c., &c. London: J. & A. Churchill, New Burlington-street.
1875. Pp. 146.

THE Lectures, which have previously been published in *The Medical Press and Circular*, contain a variety of information from a variety of sources, but we are not able to compliment the author upon having thrown any new light upon the subject of "Bright's

Disease," or on having skilfully illuminated his picture of it with the rays at his disposal. Some observations in an early portion of the book (p. 10) are, to say the least of them, startling enough to deter one sitting down to its perusal from adventuring their time and temper on such an undertaking:—

"Apart from these considerations, I have no hesitation in saying that the heaping together of incoherent particulars is positively pernicious. For example, men of scientific pretensions take certain particles of *dead* animal matter, place them possibly in four-and-twenty different solutions called antiseptic, and forthwith rush to conclusions regarding the value of the so-called antiseptic surgery or medicine of modern times, relatively to the complicated mechanism of the *living* body.

"I have no sympathy, then, for *this penchant* after 'original investigation' on the one hand, and I have learned to attach little importance to much that is designated 'experience' on the other, for I have so often observed that among the so-called cultivators of medical science there is a class of men who discover everything they set out in search of, and whose experience is of such a nature that it is *made* to reconcile with any preconceived notion whatever."

If, then, "original investigation" and "experience" are both to be thrown overboard, we do not see much prospect of any one elucidating subjects so obscure and complex as Bright's disease. Comparisons may be odious, but at the same time cannot always be avoided, and we cannot forbear contrasting this volume with some others we have seen of the same scope and upon the same subject.

Transactions of the Pathological Society of London. Volume the Twenty-sixth, comprising the Report of the Proceedings for the Session 1874-75. London: Printed for the Society by J. E. Adlard, Bartholomew-close. 1875. Pp. 362.

THIS volume is not less rich than its predecessors in valuable pathological knowledge collected in the extensive area afforded by the London hospitals. It is well illustrated with plates and woodcuts, and contains the discussion on the Germ-theory of Disease which was opened on 6th April, 1875, by Dr. Charlton Bastian. The discussion occupies ninety pages of the present volume. We may note as indications of backwardness in the long-established Dublin Pathological Society that in the London Pathological

Society the meetings take place at half-past eight p.m.; there is discussion upon the subjects introduced; the living specimen may be exhibited; the Society provides microscopes for exhibitors; there is a Committee for morbid growths, and a Chemical Committee. We can see no reason why the Dublin Pathological Society should not set its house in order if it intends to preserve any more than the name which once connected it with pathology.

Some Remarks on Paracentesis of the Chest. By HENRY BARNES, M.D.; Physician to the Cumberland Infirmary; President-elect of the Border Counties Branch of the British Medical Association, &c. London: Macmillan & Co. 1875. Pp. 15.

THIS short but very interesting essay discusses the value of paracentesis of the chest, the class of cases in which the operation is suitable, the objections which have been urged against it, and the best method of performing it. It is a reprint from *The Practitioner* of September, 1875. The author's experience is detailed in the clear and concise style of a careful and accurate observer. The cases he brings forward are most instructive; he is in favour of early operation, especially when dyspnoea is urgent, or when the effusion does not seem to be diminishing under the influence of ordinary remedies.

The Maintenance of Health: a Medical Work for Lay Readers. By J. MILNER FOTHERGILL, M.D., Edin.; Member of the Royal College of Physicians of London; Junior Physician to the West London Hospital; author of "Digitalis" (Hasting's Prize Essay of the British Medical Association, 1870), &c. London: Smith, Elder, & Co., 15, Waterloo-place. 1875. Pp. 399.

WE think this book decidedly the best of its class which we have seen. The author states in the preface that "it is not a family practice of medicine, but aims at the inculcation of those principles which ought to guide us in our search after health." It is a book the necessity for which arises from the condition of medicine in these latter days. Now, when hygienic and sanitary matters, in their bearing on private and public health, are discussed by well-

informed people in good society—and medical treatment is as much hygienic and dietetic as medicinal—there is a necessity for such books; and the necessity is producing them. The public read these books, and it is well for many medical men to do so also, or they will not appear to advantage in the discussions which crop up daily on matters which have points of contact with medicine. Much of the information is collected from standard works, and the physiological parts are set forth according to the most recent teaching.

On Addison's Disease: being the Croonian Lectures for 1875, delivered before the Royal College of Physicians. Revised and Illustrated by Plates and Reports of Cases. By EDWARD HEADLAM GREENHOW, M.D., F.R.S.; Fellow of the Royal College of Physicians; Physician to, and Lecturer on the Principles and Practice of Medicine at, the Middlesex Hospital. London: Longmans, Green, & Co. 1875. Pp. 212.

THE Lectures have been carefully revised for publication in their present form; many details, necessarily omitted at the time of their delivery, have been supplied; and several passages have been amplified, or entirely re-written, in order to explain the views which they were intended to convey more fully than was possible in their original condensed form. The subject is most exhaustively and skilfully treated. The clinical and physiological grounds for referring the symptoms of Addison's disease to nerve-lesions are ably stated; the relation between the symptoms and one particular lesion of the capsules is insisted upon, and good proof offered in support of it. The cases of discoloration of the skin without disease of the supra-renal capsules, and of disease of the capsules without discoloration of the skin, which have given rise to so much misconception, are explained and exhibited in their true characters. The plates are very well executed.* The work is one which, for a considerable time, will be a valuable epitome of our information on the subject of which it treats.

* The very beautiful drawings of the microscopical appearances of the altered structures are by Dr. Burdon Sanderson, V.P.R.S., Mr. Henry Arnott, and Dr. Sidney Coupland.

PART III.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE COLLEGE OF PHYSICIANS.

SAMUEL GORDON, M.B., President.

GEORGE F. DUFFEY, M.D., Honorary Secretary.

Wednesday, January 12, 1876.

DR. FITZPATRICK in the Chair.

A Case of Pyæmia attended by Sudden Destruction of the Eye. By JOHN WILLIAM MOORE, M.D., Dubl.; Fellow and Censor of the King and Queen's Coll. Phys.; one of the Physicians to the Meath Hospital.

THE present communication is little more than a simple clinical record of a case of pyæmia from phlebitis occurring in the "puerperal state." A few days before the patient's death panophthalmitis of the left eye suddenly supervened, and sight was rapidly lost. At the autopsy the structures of the eyeball were found disintegrated, and the left ophthalmic vein and cavernous sinus proved to be the seat of thrombosis or embolism. These facts led me to think that the case was perhaps worthy of being recorded in the Transactions of our Society. To insure greater fullness and accuracy, I have supplemented my own notes of the clinical history by many observations carefully recorded by my late clinical clerk, Mr. George Reginald Leeper.

Annie W., aged twenty-two years, married, was admitted to Ward 20 of the Meath Hospital on the evening of Saturday, October 2, 1875. She was in a state of high fever, and extremely wasted and prostrate.

Her history was briefly as follows:—About a year previously she had married, having always enjoyed good health up to that time. She shortly became pregnant, and on the 6th of September, 1875, she was confined of a healthy child at full term. Her child is alive and well. The labour was easy and in every way natural, and all went on well for four days. She then felt hungry, and ate a chop, with the consent of

her nurse, for she was not attended by a medical man. She blamed this indiscretion in diet for her subsequent illness—indeed, she said: "Since I ate the chop I've never felt well." A soreness of the belly and swelling (tyimpanites) set in, and the bowels became confined. To relieve these symptoms, the nurse gave her four doses of castor-oil and a rhubarb draught in rapid succession. Meanwhile she was becoming more and more feverish, and her left leg swelled and got very painful. The purgatives set up an obstinate diarrhoea, and after some time she was seized with a shivering fit each afternoon. On October 2 a violent pain under the right breast was complained of. On the evening of this day she was admitted to hospital. Her pulse was then 160, the respirations were 37, and the temperature was 104.2°.

Next day, October 3 (the 25th day of her illness), there were unequivocal physical signs of a pleuritis at the base of the right lung, and the diaphragm seemed to be engaged, for every movement of it was attended by agonising pain. This was relieved by a hypodermic injection of one-sixth of a grain of morphia, and by strapping the side. Her left leg was greatly swelled and most painful, and an exhausting diarrhoea resisted all attempts to check it. Towards evening she passed into a state of collapse, the temperature suddenly falling from 102.8° to 96.8°. Reaction was at length established by means of stimulants, diffusible stimulants, and the external application of sinapisms and hot jars. During the night a profuse diaphoresis occurred; but, notwithstanding, the morning temperature next day was 101.6°.

Tuesday, October 5, morning.—Pulse 152, respiration 36, temperature 101.2°. She had slept pretty well; had sweated less than during the previous night. The heart's action was very rapid, and its sounds were remarkably "sharp," the second being specially accentuated. It was thought that perhaps the stimulants she was taking—namely, 4 ounces of port and 4 ounces of whiskey—were disagreeing with her, and accordingly the whiskey was omitted, while an extra 2 ounces of port were substituted for it. Carbonate of ammonia and bark in effervescence were prescribed, and small enemata of laudanum and mucilage of starch were thrown up, as required by the diarrhoea.

Wednesday, October 6.—Profuse diaphoresis after a rigor. Morning temperature 103.6°. The "stitch" in her right side causes her great uneasiness. There is distinct *frémissement* below the mamma, and friction is audible on auscultation. The expectoration is that of a bronchial catarrh. Five-grain doses of quinine and camphor were given in a bolus every fourth hour, and the laudanum enemata were repeated; but with little or no effect in checking the diarrhoea. The bowels acted eight times in the twenty-four hours.

Thursday, October 7.—She had but little sleep. There was profuse perspiration. Her pulse is weak and thready this morning, and the

heart's action has quite lost its "kick." There is some tympanites to-day, but all abdominal pain has ceased. She was now ordered a grain and a half of both quinine and camphor in pill every second hour, and one of the following pills every sixth hour:—

R. Extract. opii.	gr. 4.
Pulv. ipecac.	gr. 4.
Extract hyoscyami	gr. 8. m.

Divide in pilulas quatuor.

Port wine, ʒvj.; whiskey, as punch, ʒiij.

Friday, October 8.—Pulse 144, respiration 46, temperature 101·1°. She slept badly, although the perspiration was less. Her tongue is cleaner and moister. The tympanites has almost disappeared, but the bowels have been moved ten times. At 9 p.m. pneumonic sputa of a deep red colour began to come up. About midnight this sanguineous expectoration disappeared, its place being taken by the previously existing colourless sputa of the earlier stages of a bronchial catarrh.

Saturday, October 9.—Pulse 128, respiration 36, temperature 100·6°. She complains this morning of pain and dimness of sight in the left eye. There is some photophobia, and the pupil is markedly contracted. Partial dulness is detected on percussion over the base of the right lung posteriorly, and rhonchus, with pneumonic crepitus, is heard in this situation. The pain in the side is much less severe. The bowels have acted nine times since yesterday; the motions are jelly-like in consistence.

This evening she said she was perfectly blind of the left eye. About 9 p.m. the sanguineous sputa returned. Later in the night a very severe attack of diarrhoea set in, so that the motions increased to fourteen in the twenty-four hours.

Sunday, October 10.—General state unaltered, except for the worse. There is chemosis of the left conjunctiva, the eye-lids are cedematous. Dr. C. E. Fitzgerald kindly examined her eyes with the ophthalmoscope. He utterly failed to illuminate the fundus of the affected eye. The cornea was "steamy," the aqueous humour turbid, and the pupil appeared to be closed by exudation. The photophobia this day extended to the right eye, with great lachrymation. The expectoration is colourless to-day, although last night, as usual, it continued to be pneumonic for some hours. The diarrhoea, while persistent, is not profuse. Draughts containing compound tincture of benzoin, tincture of catechu, tincture of opium, and decoction of logwood were given every sixth hour.

Monday, October 11.—She has spent a wretched night. Bowels frequently moved (20 times since yesterday). The congestive pneumonic expectoration continues. Her left eye is much inflamed, and the eye-lids are tumid. The urine was examined to-day. It is acid in reaction,

slightly turbid, and very highly albuminous. Its spec. grav. is 1021. A copious deposit of pus-cells, granular and epithelial tube-casts, and epithelial detritus is thrown down on standing. In the evening the axillary temperature rose to 105°, the pulse was 160, and the respirations were 40.

Tuesday, October 12.—Pulse 132, respirations 40, temperature 98·7°. She slept at times last night. The motions from the bowels have become so numerous that they cannot be counted. Whenever she turns on her left side in bed the bowels immediately act, the sphincter ani having lost all control. There is now a puffy swelling about the left wrist-joint, and pains are complained of in all the joints. Small enemata of solution of the persulfate of iron were used in the vain hope of controlling the diarrhoea, which was incessant. In the evening she was clearly sinking fast, and she said she was quite blind. At midnight she died, having retained consciousness almost to the last.

Autopsy.—The *post mortem* examination was made eleven hours after death. The body was well nourished, considering the illness Mrs. W. had passed through. There was a moderate effusion into the right *pleura*, and evidences of a purulent pleuritis affecting the diaphragmatic, parietal, and visceral aspects of the serous membrane were present. The under surface of the right *lung* especially was firmly bound down by yellowish lymph. Throughout the substance of this lung patches of consolidation were met with, and its middle lobe was almost wholly in a state of red hepatisation (hæmorrhagic infarction?). The *heart* and its valves generally were healthy, but one flap of the semilunar valves was studded with lymph-like granules. The *pericardium* was quite healthy; the endocardium was universally red, and this appearance passed into the large vessels, for the aorta was very deeply injected. The right pulmonary artery was plugged, and the seat of a recent embolism. On laying open the abdomen, we found no trace of peritonitis anywhere. The *liver* was healthy, but slightly enlarged, weighing 3 lbs. 8½ ozs. The *spleen* also was healthy. The *kidneys* were rather large, and distinctly lobulated, with a patulous, somewhat sacculated, hilus in each case. These characters were probably congenital. Dr. Reuben J. Harvey, who kindly examined sections of the kidneys microscopically, found nothing abnormal except a slight increase of the connective tissue. The epithelium was *not* fatty. Unfortunately the specimens had not been well preserved when they were submitted to him for examination. The *intestines* were of normal appearance externally. There was no infiltration of Peyer's patches; no doubt some hyperæmia and *engouement* existed in the neighbourhood of the ileo-cæcal valve, one inch below which an ulcer was found in the colon. The *uterus* was as large as might be expected four or five weeks after delivery; its muscular tissue was hyperæmic. The os tincæ was patulous. The uterine and ovarian veins

were filled with firm clots. On examining the left *common iliac vein*, to discover the cause of the œdema of the lower extremity, we found the coats of the vessel very opaque, and so much thickened as to resemble the wall of an artery. The inferior cava was quite normal in appearance, its coats translucent and thin. The common iliac, external and internal iliac veins on the left side were all filled with softening thrombi moderately adherent to the walls of the vessels. In places the plugs were firm, but elsewhere they had broken down into a grumous fluid like mingled pus and blood. As a rule the thrombi were externally firm and laminated, while internally they resembled sanguineous pus. The right common iliac vein and its branches were perfectly healthy, the morbid appearances terminating abruptly at the origin of the inferior vena cava. The *brain* and its membranes were healthy. No morbid effusion had taken place into the ventricles. The left cavernous sinus and ophthalmic vein, however, were plugged with a thrombus or embolus. The left (affected) eye-ball was enucleated, and sections were examined under the microscope by Drs. Harvey and C. E. Fitzgerald. The latter very kindly wrote me the following note after the examination:—

“27, UPPER MERRION-STREET

“DUBLIN, Dec. 5th, 1875.

“MY DEAR MOORE,—I had an opportunity to-day of examining, under the microscope, some sections made by Dr. Harvey of the eye in your case. These sections quite prove the correctness of the diagnosis—viz., that it was a case of suppurative choroiditis or panophthalmitis, all the tissues of the eye appearing to be more or less involved in the destructive process. This is the form of inflammation sometimes met with in cases of typhus and cerebro-spinal meningitis, &c. In these cases the inflammation appears often to spread from the meninges to the eye, but it may also be due to metastasis, as sometimes occurs in cases of puerperal fever, and, as Dr. Wecker* states, in phlebitis of the umbilical veins in new-born children.

“Mr. Wells,^b in his valuable *Treatise on the Eye*, says:—‘This metastatic form of the disease may either assume a very severe and acutely inflammatory type, rapidly leading to suppurative disorganisation of the globe; or it may run a more insidious, but equally destructive course.’ The latter is what I think took place in your case.

“I remain,

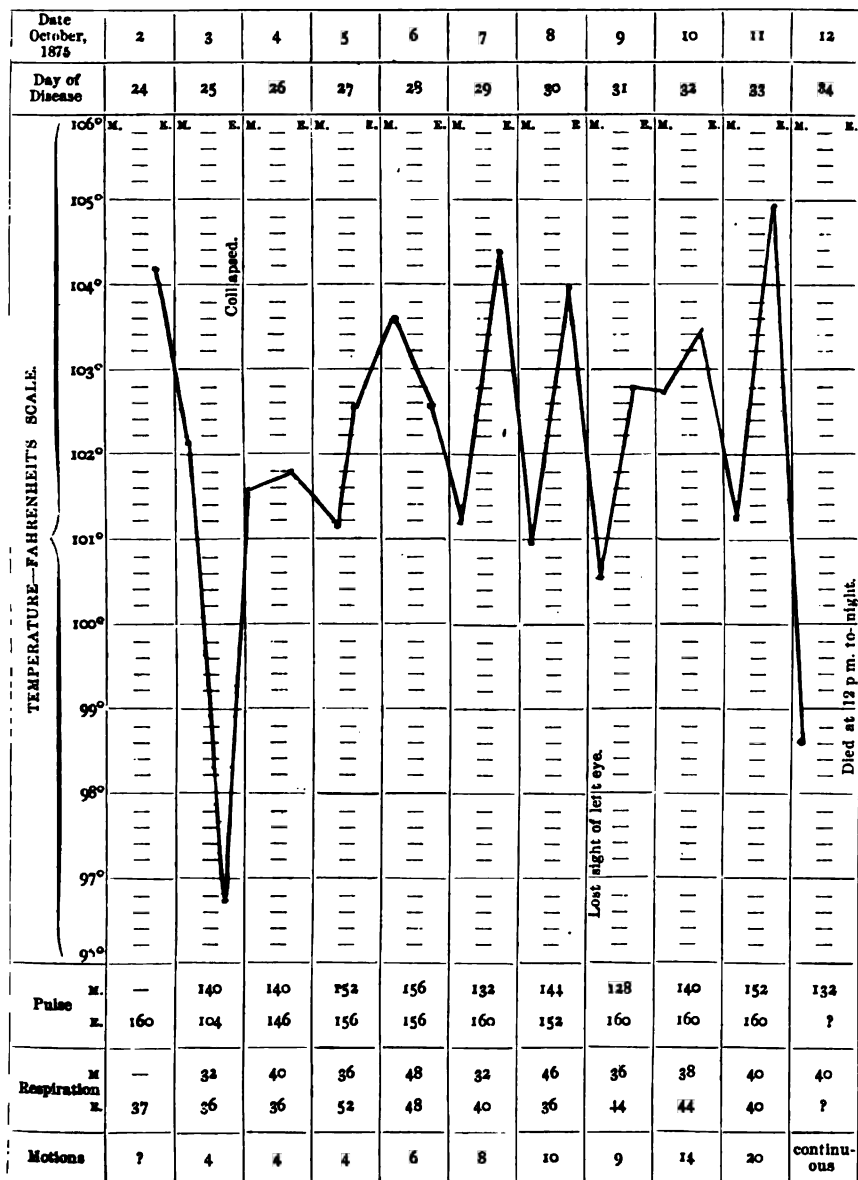
“Very truly yours,

“C. E. FITZGERALD.”

* L. Wecker. *Traité Théorique et Pratique des Maladies des Yeux*. Deuxième édition. Tome premier, page 537.

^b J. Soelberg Wells. *A Treatise on Diseases of the Eye*. Second edition, page 467.

CLINICAL CHART OF TEMPERATURE, &c.

ANNE W.; Age, 22; Disease, *Phlebitis and Pyæmia*; Result, *Death*.


The foregoing case presents several features of interest, some of which seem to call for special notice. And first, there can be no doubt that the chain of morbid phenomena must be referred primarily to the *puerperal state*, and secondarily, to what Trousseau has well termed "*l'infection purulente puerpérale*."^a In his admirable clinical lecture on this subject he observes that it is generally about the fourth or fifth day after delivery that the symptoms of purulent infection declare themselves. So it was in the present instance; and the symptoms were eminently characteristic—frequent rigors, profuse perspirations, and obstinate diarrhœa. For some time no additional phenomena presented themselves, but coincidentally—it would seem—with the softening of the thrombi in the left iliac veins, embolism of some of the branches of the right pulmonary artery occurred, hæmorrhagic infarctions formed, and a purulent pleuritis became developed. And there is a curious point connected with the physical signs of this pleuritis—the friction sound was heard so low in front that I felt justified in making a diagnosis of peritonitis in the neighbourhood of the liver. This view was supported by the presence of diarrhœa, of marked tenderness on pressure over the abdomen and particularly over the liver, and of tympanites. But not a trace of peritonitis was discovered *post mortem*. The periodical recurrence of sanguineous sputa seems to have been due to the evening exacerbations of pyrexia; the increased rapidity and excitement of the heart augmented the blood tension in the capillaries of the already over-tasked pulmonic circulation. Speaking of pyrexia, it is well to note the extreme fall of temperature which preceded death by some hours. Wunderlich^b gives temperature charts of pyæmia in which death took place sometimes with comparatively low or even normal temperatures, sometimes with those of medium height, and sometimes with high febrile temperatures.

And now to come to the most interesting point—the sudden dissolution of the eye. This terrible complication has often been observed. In his treatise on "*Pericarditis*," Dr. Stokes^c observes:—

"Among the rarer symptoms of, or rather the accidents connected with this disease, are we to place the sudden destruction of the eye, as described by Corvisart? This author gives a case of pericarditis in which not less than two pints of sero-purulent fluid were effused, while the heart was covered with a thick albuminous layer. The disease was singularly uncomplicated, and had apparently resulted from a blow on the cardiac region. The general symptoms presented nothing remarkable except the spontaneous and almost sudden dissolution of the right eye, without any preceding or accompanying inflammation. At the time

^a Clinique Médicale. Deuxième édition. Tome III., p. 612.

^b Med. Thermometry. New Syd. Soc. 1871. Plate VI.

^c Diseases of the Heart and Aorta. 1854. Pages 58 and 59.

of this occurrence the patient was in a state of great prostration. In another case of pericarditis, which terminated in adhesion, the right eye became ecchymosed and inflamed during an access of cardiac suffering, but no dissolution of the organ is reported to have taken place. In his first case the most careful examination failed to detect any cerebral disease, and the sudden dissolution of the eye remains an unexplained fact.

"It is more than doubtful that the sudden dissolution of the eye, as noticed by Corvisart, is to be considered as depending on carditis, or any form of disease of the heart: the eye suppurated, and gave way without previous inflammation." Such an accident, resulting from disease of the heart, has never, so far as I have seen, been observed in this country; but that it occasionally occurs in cases of purulent phlebitis is certain. In this condition, and without the slightest previous distress, as referred to the eye, the patient sometimes becomes suddenly blind of one or of both eyes. Within a short time pus can be detected in the chambers of the organ, and should the patient survive sufficiently long, the coverings may give way, and collapse of the eye-ball follow from the simultaneous evacuation of the humours and purulent secretion. The history of Corvisart's case seems to bear out the view that some typhoid condition of the system existed, and it is remarkable that not less than sixteen days elapsed between the infliction of the blow and the appearance of fever and oppression of the chest.

"We cannot, then, as I conceive, admit the sudden dissolution of the eye as one of the symptoms of pericarditis. In the present state of our knowledge it is only met with in phlebitic and other analogous forms of inflammation."

Dr. Stokes does not explain the occurrence of this lesion of the eye, but recent ophthalmic investigations have clearly shown that it is in most cases due to one of three causes—the first, backward extension of morbid action along the ophthalmic vein to the choroidal vessels and eye generally; the second, embolism in the arterial system of the eye; and the third, facial phlebitis, as pointed out by M. Blachez.^b In Mrs. W.'s case we may at once exclude the third cause. That the panophthalmitis was due rather to metastasis or embolism than to the lesion of the ophthalmic vein appears, I think, from the absence of brain disease, the comparatively small extent of vein engaged, and the recent nature of the changes observed in the ophthalmic vein and cavernous sinus. These vessels were filled with a clot, but it seemed to be of recent formation, and contrasted remarkably with the softening thrombi in the iliac veins. On the whole, my reading of the case would be that a secondary pyæmic focus

^a See the work of Corvisart. P. 17.

^b *Gazette Hebdomadaire*. 1863. P. 716. Quoted in *New Syd. Soc.'s Year Book* for 1864. P. 267.

became established in the left eye, and led in turn to phlebitic changes in the efferent veins.

Lastly, the singular absence of delirium or other head symptoms is noteworthy. Even with a temperature of 105° no wandering was observed. But, except towards the close of her illness, Mrs. W.'s remarkable clearness and good spirits never left her. At times she used to say: "I think I'll over it." Her confidence was like that of a consumptive patient—it was what Trousseau^a calls "*Un trouble cérébral important.*" This he explains in the following terms:—"C'est le désaccord entre l'état de quiétude du malade et la gravité de son état général; il ne comprend point qu'on l'interroge avec un soin si attentif; 'il n'est pas malade' dit-il. *Cette quiétude est d'un pronostic très-grave.*"

The CHAIRMAN remarked that the subject of pyæmia was a vast one, and they had had before them an admirably-detailed case of its production. A remarkable analogy, in his mind, existed in all cases of poisoning of the body—in this respect; that the mucous membranes in such cases evinced the greatest disposition to throw the poison off. In this way the diarrhœa of cholera may be accounted for. Even the endocardium manifested the same kind of action.

DR. MACSWINEY said that the circumstance of the recent delivery of the woman would seem to point to the organs of the pelvis as the probable source of infection in Dr. Moore's case. When a placenta attached to the uterine walls was forcibly withdrawn, it rendered the female particularly liable to blood-poisoning. He would ask, had the actual condition of the interior of the uterus, particularly as to the placental spot, been observed in this case? It was established that the slightest abrasion or laceration of the uterus or vagina or peritoneum in pregnant women exposed them to the risk of pyæmia.

DR. HENRY KENNEDY observed that about fifty years ago a good many cases of loss of vision through typhus fever, in connexion with the great epidemic of 1818, were detailed by the late Dr. Jacob in the *Dublin Hospital Reports*. The result, as far as regarded the destruction of the eye, was similar to that now described by Dr. Moore. He had seen several cases of loss of vision through pyæmia. He had also seen it in cases of epidemic spinal arachnitis; and in the late small-pox epidemic two cases in which an eye was lost from internal inflammation had come under his observation.

DR. FINNY did not remember that Dr. Moore had stated how the purulent focus which formed in the eye was produced. He thought the

^a Loc. cit. Page 634.

explanation of it was simple. The inflammatory disease, commencing in the uterine sinus, extended to the iliac veins, in which Dr. Moore had described a thrombus. Dr. Wilks and Dr. Moxon, in their work on "Pathological Anatomy," laid great stress on inflammatory emboli. In one or two cases in his own practice he (Dr. Finny) had observed instances of inflammatory embolism followed by a deposit of pus in various parts of the body. The embolus, as Dr. Moore had described, having first started from the iliac vein, and being of inflammatory nature, found its way into the lung. It there produced not only hæmorrhagic infarction, but such an inflammatory change in the small vessels of the pulmonary system as to be followed by pleurisy; the pulmonary veins then carried the embolus into the left ventricle, and from thence through the branches of the ophthalmic into the choroid artery. If, then, it be acknowledged that an inflammatory affection can be developed in a large artery and extend to all the parts around, it is easy to understand that, although anatomical investigation failed to show it, an embolus, inflammatory in its nature, might have lodged in the choroid arteries and become the focus of purulent disease of the structures of the eye. That seemed the explanation of the disease as regarded the eye.

MR. SWANZY said the explanation which he would give of the suppurative affection of the eye was the same as that which had been given by Dr. Finny. He had had no personal experience, but was aware that German authorities adopted the view that puerperal cases had a special starting-point. There might have been in this case an embolism of one of the choroidal veins, and it was known that the simple presence of an embolus in one of the small veins of the choroid would suffice to give rise to suppurative inflammation of the eye.

DR. MOORE, in reply, said that a minute examination of the genital passages in the case in question had not been made. The interior of the uterus was certainly inspected, and it seemed to be tolerably healthy. The fourchette was not examined, nor was the condition of the vagina closely inquired into. Opium was largely used in the treatment of the case, because it was the only thing that counteracted the agonising pain that the poor woman suffered. It checked the diarrhœa, and by relieving the intense pain, gave her four nights of comparatively quiet sleep.

DR. MACSWINEY read a paper, entitled, "A Case of Cirrhosis of the Liver." [It will be found at page 130.]

The CHAIRMAN asked did Dr. MacSwiney consider that a habit of drinking raw spirits was necessary for the production of cirrhosis. If the use of diluted spirits was capable of producing it they might look

forward to a very great increase in the disease. He thought that diseases of the heart and kidneys were more likely to result from intemperate habits than cirrhosis of the liver.

DR. BURKE remarked that in England cirrhosis of the liver was commonly called the "nutmeg," or "gin-drinkers" liver; and it was considered by physicians and surgeons there that drinking spirits was a principal cause of the disease. He perfectly agreed with the Chairman that affections of the stomach and diseases of the heart and kidneys were very common results from the drinking of spirits, whether diluted or undiluted.

DR. FINNY stated that Dr. Murchison recently brought before the Medical Society of London a case of cirrhosis of the liver in a child of eleven years of age whose parents were drunkards, and had been in the habit of giving the child drink. Dr. Murchison strongly held the opinion, in which he (Dr. Finny) agreed, that cirrhosis of the liver was produced only by the introduction of alcohol into the stomach, and by its setting up inflammation of the fibrous tissues of the body. Their own police annals showed that spirit-drinking was not confined to old people. The other day they read in the newspapers that a publican was severely reprimanded by the magistrates for having given spirits to two boys aged eleven and twelve years respectively. The œdema of the feet before the occurrence of ascites might be due to pressure on the vena cava by the contracting liver, as had occurred in some specimens which he had seen, or might have been caused by a thrombus of the vena portæ, and he would be glad if Dr. MacSwiney could throw light on these points. In his hospital last summer there was a case of well-marked œdema of the feet, in which ascites afterwards occurred; in this instance a *post mortem* examination disclosed a remarkable thrombus of the vena portæ extending into the splenic vein.

DR. DOYLE asked if the spleen was displaced? If there had been pressure of the spleen on the vena cava it would account for the œdema.

DR. GRIMSHAW asked did Dr. MacSwiney make any examination of the general condition of the coats of the blood-vessels and arteries? He believed that this condition of the liver was very nearly allied to that described by Sir William Gull and Dr. Sutton under the name of arterio-capillary fibrosis. He considered that there was a close connexion between this fibroid condition of the liver and the condition which was associated with renal disease, or such forms of renal disease as were known to be connected with the consumption of large quantities of alcohol.

DR. MACSWINEY, in reply, said that he was not present at the *post mortem* examination of the case, and therefore he was unable to answer the questions asked. It was indisputably established that nearly 99 out of every 100 cases of cirrhosis of the liver were traceable to the use of undiluted spirits, but there was no evidence that moderate quantities of diluted forms of spirituous drinks would produce it.

Case of Chronic Hydrocephalus. By WALTER G. SMITH, M.D., Dubl.;
Assistant Physician to the Adelaide Hospital.

ALTHOUGH cases of chronic hydrocephalus are common enough, opportunities of examining the parts after death are sufficiently infrequent to make it worth while to bring the details of such a case before the Society.

George R., aged eight months, was brought to the dispensary of the Adelaide Hospital in the course of last summer on account of an enormous hydrocephalus, and was admitted into the hospital in the middle of July, 1875. The parents are now abroad, the father being in the army, and little history was obtained beyond the facts that the mother has three living healthy children, and that she had a tedious labour with the subject of this communication. The enlargement of the head was first noticed about one month after birth, and had gradually increased to its present dimensions. The day after admission the following notes were taken:—The child almost continuously uttered a piteous moan or wail, especially when touched or in any way disturbed. He lay in bed with the knees bent up towards the abdomen, the arms flexed, and the fingers turned in with some degree of rigidity. There were no signs of any teeth except two, the central lower incisors, which projected one-eighth of an inch from the gum, and were notched. Neither harelip nor spina bifida existed, nor any other vice of conformation. No convulsions occurred while in hospital, and the sense of hearing did not appear to be abolished.

The whole surface was pallid, and the trunk and limbs were extremely emaciated, while in marked contrast to the puny and wasted body stood out the gigantic spheroidal head. The greatest circumference of the cranium above the orbits was two feet three inches. The long axis of the head measured nine and three-quarter inches. We may here call to mind that the average horizontal circumference of the adult British male cranium, taken one inch above the orbits, is about twenty-one inches, and the antero-posterior diameter is seven and a quarter inches.

So heavy and unwieldy was the head, and so soft and yielding the brain case, that the nurse feared to move the child in bed, and would not dare to lift it.

The scalp was thinned, extremely tense, appeared as if glazed with

varnish, and was sparsely covered with fine flaxen hair. The larger cutaneous veins of the head were uniformly distended, and their blue arborescent outlines were the more marked by comparison with the otherwise anæmic skin. The frontal region presented an enormous protuberance, and a vertical line dropped down from the forehead passed two inches in front of the nose. The diminutive triangular face was overshadowed by the supraorbital projection. The inner canthi of the eyes were about one and a half inches distant from each other, and behind the stretched and glossy intervening skin the fluctuation of the intra-cerebral fluid could readily be felt.

The eyelids appeared ready to burst from distension, and the upper eyelids being unequal to cover the eyeballs gave the physiognomy a ghastly and melancholy expression. The left ear was two and a quarter inches distant from the external canthus, and the long axis of the pinna was displaced so as to lie almost parallel to the horizontal ramus of the lower jaw. Large spaces obtained at the fontanelles, and at the sagittal, coronal, and lambdoidal sutures, and the cranial bones, soldered together at the base only, fell back—to use Trousseau's happy expression—like the petals of an opening flower. The eyeballs were seldom at rest, even for a moment, and the perpetual rotatory and lateral oscillations of the globes, together with the awkward position of the child in bed, put great difficulties in the way of a satisfactory ophthalmoscopic examination, which Mr. Swanzy kindly undertook to make. Two days after admission, the head, which seemed on the point of relieving itself by bursting, was punctured anteriorly by Dr. Barton with the fine needle of an aspirator, and a small quantity of limpid albuminous fluid was withdrawn. Clear fluid continued to drain away from the puncture for several days, and the tension of the head was materially lessened. The veins became less turgid, the edges of the thin parchment-like bones were more distinctly palpable, and the circumference was reduced by one and a quarter inches. Some blood was passed from the bowels the day on which the puncture was made, and within five days the opening had closed.

After a little time the abdomen and feet swelled, then the right hand, and bed-sores commenced to form. With some trouble a photograph of the child at this juncture was secured by Mr. Robinson, which exhibits tolerably well the attitude and general aspect of the patient.

In the beginning of August one of the bed-sores on the elbow had exposed the articular end of the humerus, and pustules formed on the side of the head and ear upon which the child had so long lain. Emaciation advanced to the last degree, and the bowels were moved every time immediately after taking food. The child constantly whined and cried, and in the third week of August he died.

During the whole time of his stay in hospital the appetite was preserved,

as is often the case, and there was never paralysis of the bladder or rectum. A few days before death Mr. Swanzy was able to examine the eyes under more favourable circumstances, and he will presently describe the conditions which he found to exist.

A *post mortem* examination was made fourteen hours after death. Rigor mortis was evident in the lower extremities. The skin on both sides of the head, especially the right, was extensively ulcerated, and the right ear was in a semi-gangrenous state. Ulcerated bed-sores existed over the sacrum and the convexity of the right elbow.

The greatest circumference of the head now measured twenty-four and three-quarter inches, little less than the total height of the child, which was only twenty-seven inches. From the vertex to the tip of the lobule of the ear measured seven and a half inches. The scalp was reflected by a transverse incision from ear to ear, and was found to be excessively attenuated so as to present some degree of translucency. On puncturing the thin membranes, and attempting to remove the calvaria to which they were closely united, about five and a half pints of light straw-coloured fluid escaped similar to what had been withdrawn during life, and both hemispheres immediately collapsed. The cranium was, in fact, little more than one huge sac of liquid. The surface of the brain was pale, lustrous, and the translucent cortex of the hemispheres was everywhere much thinned, being nowhere above a line in thickness, and in many places much less, especially anteriorly. The external convolutions were unravelled, almost effaced, and scarcely distinguishable from the sulci. The cerebral substance was sodden, and so lacerable that it gave way to the slightest touch. Each hemisphere was expanded into one immense ventricular sac, which communicated freely with its fellow by an enormously dilated foramen of Monro, admitting the passage of the little finger. Projecting beneath the optic commissure there was a thin-walled transparent sac about the size of a hazel nut. The interior surface of the ventricles was opaque, pearl white, perfectly smooth, and almost bloodless; the ependyma was tough and thicker than ordinary. No vestige of any of the internal convolutions was to be discovered, with the exception of the corpus striatum on either side. The cerebellum and pons were, as is usual, fairly developed, although extremely soft and œdematous. The fourth ventricle was *not* distended, this exemption being explained by the aqueduct of Sylvius being blocked up posteriorly. There was scarcely any blood in the sinuses, and there was no tumour or other cause of pressure on the veins of Galen. The cranial bones were widely separated from each other,* being connected by

* Compare Bright's Medical Reports, II., Figs. XXXIV.-XXXVII., and Baillie's Morbid Anatomy, Fig. I., p. 213. An admirable series of preparations, illustrative of chronic hydrocephalus, is preserved in the Museum of the Royal College of Surgeons, Ireland.

fibrous membrane, and in the interspaces were numerous islets of bone and *ossa triquetra*. The bones of the vault were soft and flexible; the bones of the base were firmly ossified. The eyeballs were removed, placed in weak chromic acid, and handed over to Mr. Swanzy for examination.

The thoracic and abdominal viscera presented nothing abnormal.

No fresh light, I regret to say, is thrown by this case on the confessedly obscure problem of the origin of the effused fluid. No part of the brain showed any decided evidence of chronic inflammation, or of the sequelæ of acute inflammation, and no tumour or other cause of pressure was discovered. From the circumstance of the tedious labour, taken along with the enlargement of the head having been distinctly noticed within one month after birth, there can be little doubt that the morbid action commenced during uterine life.

That the alterations observed in the different portions of the brain were entirely the effect of absorption in consequence of the centrifugal pressure of the fluid, and were not preceded by imperfect development of some parts of the encephalon, appears from the quantity and symmetrical disposition of the brain substance found after death. And although the amount of fluid poured out in this case falls far short of the almost incredible amounts (*e.g.*, 50 lbs. weight) recorded by other observers, it is impossible to restrain a feeling of astonishment at the compatibility, not only of life, but also of certain psychical functions with such very grave and extensive alterations, albeit gradual, of the cerebral hemispheres; and we cannot but be struck with the singular capacity of the brain for adapting itself to abnormal conditions.

It was at once apparent, from the rapid increase in the size of the head, that no method of treatment was likely to prove beneficial. Compression by bandages or straps might not improbably have resulted in a similar mishap to that which befel Trousseau, and which deterred him from repeating the practice. The opposite expedient of tapping which was resorted to was not followed by any bad consequences, and appeared to yield some temporary relief. No trace of the puncture was visible after death, and no inflammatory process was excited by it, as sometimes happens.

Before admission into hospital, iodide of potassium had been administered on the chance of doing good, and I am disposed to think that in other cases of hydrocephalus occurring in older children, I have observed distinct improvement, and perhaps even arrest of the disease, from the continued use of this drug.

MR. SWANZY said that from the difficulty of moving the child in bed, and from the constant nystagmus, he had had considerable difficulty in making an ophthalmoscopic examination. He thought, from the glimpse

he got, that there were some choroidal changes in the left eye. There was no congestion of the right papilla, and the optic disc was atrophied, as was generally the case in hydrocephalus. In the right eye there were also choroidal changes. These were not common in cases of hydrocephalus. They certainly were not the result of the hydrocephalus, although the atrophy of the optic nerve was. The cause of the hydrocephalus was probably the cause of the choroiditis. Taking the latter into consideration along with the notched teeth, the starting-point of the whole disease might have been congenital syphilis.

DR. BURKE observed that "snaggle" teeth were a common consequence of congenital syphilis.

DR. HENRY KENNEDY was of opinion that the condition of teeth described was infinitely more common in connexion with strumous affections and weak constitutions arising from struma than in syphilis.

MR. SWANZY said he did not believe that every person who had "snaggle" teeth laboured under congenital syphilis. In connexion with this point Mr. Hutchinson had described a malformation which he called "peg-top" teeth. Congenital syphilis could not be diagnosed from the teeth alone, but might from malformed teeth taken together with other symptoms. The "peg-top" teeth were only of importance when the upper and not the lower incisors were thus affected.

The Society then adjourned.

PROCEEDINGS OF THE PATHOLOGICAL SOCIETY OF DUBLIN.

President—HENRY KENNEDY, M.B., F.K.Q.C.P.

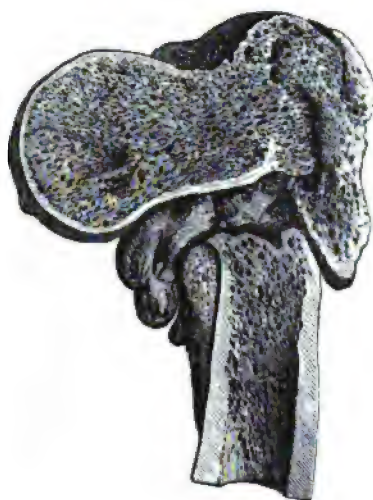
Secretary—E. H. BENNETT, M.D.

Chronic Rheumatic Arthritis of the Hip.—MR. HAMILTON said: Through the kindness of my colleague, Dr. Bookey, I have been enabled to lay before the Society a rather remarkable specimen of what I think must be regarded as chronic rheumatic *arthritis*. It presents some peculiar characteristics, otherwise I would not think it worth while to occupy the attention of the Society with a subject which has so often been brought before them. It was taken from the body of an old man which was brought to Steevens' Hospital for the purpose of dissection. The appearance exhibited by the left lower extremity led us to suppose that we had a rather uncommon specimen to deal with—one of dislocation on the dorsum ilii. The leg was flexed, adducted, considerably inverted, and shortened—in fact, there were all the symptoms of dislocation on the dorsum of the ilium. A very large tumour was found at the posterior part, rather behind the trochanter, which is explained by the appearance that the morbid specimen, subsequently removed, presents. On examination of the muscles we found that they had undergone a considerable amount of fatty degeneration, and were wasted. On coming down to the joint it presented an enormous mass of new bony growth projecting above the great trochanter, as if the capsular ligament had undergone complete ossification. The limb seemed almost fixed in one position, and the power of motion was extremely limited. The bony outgrowths are very considerable; and, as in most such cases, we found the neck of the femur almost completely concealed by stalactitic growths. On opening the joint we found exceedingly remarkable appearances. The joint was filled with synovia, rather larger in quantity than we expected; and the appearance of the head of the bone was certainly very unlike what we see usually in such cases. I have brought (for the purpose of contrast) a specimen of the ordinary form of the disease in which we see the head of the bone flattened. In the other specimen you observe that it is converted into a sugarloaf-shaped mass. There is an absolute incurvation—a curved apex fitting into a corresponding curve at the bottom of the acetabulum. The acetabulum is considerably deepened, but this seems not to have been produced by any projection into the pelvic cavity, but by extension of its margin (see Fig. 1). It is almost diaphanous, but there is no appearance of any bulging. The margin of the acetabulum

Fig. 1.



Fig. 2.



abounds with the peculiar growths which are so characteristic of such cases. You can observe the grooves in the acetabulum corresponding with ridges where the bone apparently enjoyed a certain amount of motion. The notch in the acetabulum, through which the vessels enter, looking from the outside, would appear not to have been filled up. I believe the rule in such cases is that no matter what the bony growth may be, this space is still preserved; yet you observe that on the inside it is completely filled up, and there is no appearance of it whatever. We find, on making a section of the femur, a large cavity containing fatty material, and the whole bone shows a considerable degree of expansion. The substance which lines the acetabulum does not present the character of eburnation, which is so common. The cartilage cells were examined by Dr. Bookey, and show a tendency to fibrillation, as in cartilage undergoing ulceration, and are poly-nucleated. As to the other appearances of the body, the disease showed itself at both extremities of the clavicles, and the sterno-clavicular and the acromio-clavicular articulations presented similar disease in an incipient stage. The opposite hip presented symptoms of the commencement of the disease; and there was some inflammation about the ligamentum teres and the soft structures of the joint. We found in the heart both pericarditis and endocarditis, and atheromatous deposits slightly in the aorta, and very extensively in the arteries of the lower extremities. The vertebrae presented many osteophytes.—*December 4, 1875.*

Fracture of the Neck and Shaft of the Femur.—MR. HAMILTON said: I beg to submit to the Society another specimen which illustrates the surgical pathology of the hip-joint. It was taken from an old man who was admitted into Steevens' Hospital with all the symptoms of fracture of the neck of the femur well pronounced. He had shortening of the limb, eversion, crepitation, and painful movement of the limb, which left very little doubt on our minds that the neck of the femur was fractured. Having regard to the man's age—he was over sixty—I confess I jumped at the conclusion that the case was one of fracture of the neck of the thigh bone within the capsule. He was accordingly treated for this by being put on an inclined plane of pillows with a weight attached to the foot—the most satisfactory mode of treating such a fracture. He suffered a great deal of constitutional irritation, and continued weak and low; his stomach was irritable; and he suffered a good deal even from the irksomeness of this very slight attempt at bringing the parts into their proper position, so that we were obliged, after a few days, to lay aside the use of the weight and trust simply to the inclined plane of pillows. Matters became worse; he grew weaker and weaker, got congestion of the lungs, and after some weeks succumbed to the injury. On examining the limb we found a fracture of a somewhat peculiar character. There

was the ordinary appearance of the neck of the bone very much depressed ; and on examining it we found a distinct fracture, extra-capsular, of the femur with very firm impaction, and the neck, as it usually is, wedged into the great trochanter. But there was a second fracture below this in an unusual position—a directly transverse fracture breaking off the upper part of the shaft of the femur from the trochanter (see Fig. 2). I have not seen any other example of this special complication of an extra-capsular fracture. There is one plate in the late Professor Smith's work which appears somewhat like it, but the fracture is not exactly in the same line as in the case of this accident. This led to a very careful inquiry into the previous history of the case, and we found out many things that we were not able to get at at first. He had sustained a fall some time previous to the accident for which he was admitted. He got into a scuffle with some person who threw him down ; but he was able to walk home after the accident, although suffering a good deal from pain and lameness, and then went to bed. He remained in bed for some weeks, and then got out of bed to speak to some person and tumbled down stairs ; and it was for that accident that he was admitted into the hospital. We only got the history of his fall down stairs at the time of his admission ; we got no history of the previous injury until to-day. The question that arose was whether there was, in the first instance, an extra-capsular fracture of the femur with impaction. The impaction is exceedingly firm ; the bone is kept in its place very accurately ; and the question occurred to me whether this was not a second injury, as if perhaps he had sustained an extra-capsular fracture in the first instance, and a simple transverse fracture of the femur immediately below. Dr. M'Donnell examined the specimen with me very carefully ; and we came to the conclusion that the appearances are most probably the result of one accident, and that it was the fall down stairs which produced the extra-capsular fracture with impaction, and the transverse fracture below it. But the complication of these two fractures is certainly not a common one as a matter of surgical observation.—*December 4, 1875.*

Colloid Carcinoma of the Omentum.—DR. GRIMSHAW contributed a specimen removed from a patient who was admitted into Steevens' Hospital on the 18th of October, and gave the following account of the case:—The patient died on the 27th of November. The specimen was one of colloid cancer of the great omentum, mesentery, and other points. On his admission the patient stated that he was a gardener, aged forty-two, and that about eleven weeks previously he had been employed for some time in shovelling a quantity of earth to a height above the level at which he was standing. He felt some pain in the lower part of the abdomen, and considered that it was owing to the work he was employed in. He gave up his work. The pain went away, and in three weeks

he considered he was "as well as ever he was." However, a fortnight before his admission into the hospital he began to complain of pain again. He found himself getting very weak and drowsy, and the chief portion of his pain was referred to the margin of the ribs on the left side. Shortly after this he noticed that his abdomen was swollen. The swelling increased, and about ten days before his admission to hospital he noticed that his skin was becoming yellow; and when Dr. Grimshaw first saw him his abdomen was very much distended with fluid; there was well-marked jaundice; he was also in an extremely debilitated state. His abdomen was so full of fluid when he first presented himself that it was almost impossible to examine in detail any of the abdominal viscera. Well-marked fluctuations were present, and above and round the umbilicus a hard resisting mass was discovered. On examining upwards towards the margin of the liver it was clear that the liver itself was not very much, if at all, enlarged; but owing to the distension of the abdomen by fluid, the liver was pushed upwards, and the ordinary hepatic dulness extended to a point higher than normal; therefore, it was possible that the liver might be enlarged more than was apparent at first sight. This proved to be the case. The presence of the fluid so much interfered with the man's respiration that after he had somewhat recovered from the shock of his removal to hospital, and had got stronger, he was tapped, and a quantity of dark-coloured fluid, containing bile, was removed from the abdominal cavity. After this it was found that the hardness previously noticed was caused by a movable tumour, which was easily pushed upwards, and could be moved somewhat from side to side, but could not be pushed downwards. The man's aspect, and the great pain he complained of, referable to the left end of the tumour, as well as the jaundice, led to the conclusion that he was suffering from some serious disease connected with the liver, and that it had involved the great omentum. The patient went on from bad to worse, and his jaundice got more intense. We had to tap him twice, in order to relieve the immediate interference with his respiration; but this treatment had, of course, but little effect further than relieving the pain and distress. He died on the evening of November 27. On examination after death a large quantity of fluid was found in the abdomen, and a large mass of colloid cancer in the great omentum. It was not confined to this spot, but nodules of it were scattered through the mesentery in every direction; and along the border of the intestine, through its entire length, there was a continuous row of cancerous nodules. There are also indications of the disease up to the lower surface of the liver, involving the bile ducts. The cystic duct was occluded by the disease. The hepatic and common ducts seemed free, but there were so many nodules of cancerous deposit surrounding these parts that they must have been interfered with more or less by pressure during

life. There were also some nodules of the disease to be found on the surface of the liver. At one point the diaphragm was involved, and the disease made its way through and is visible on the upper surface of the diaphragm and some scattered nodules in the lungs. The example of the disease seemed sufficiently uncommon to make it worth exhibiting to the Society.—December 4, 1875.

Imperforate Rectum.—DR. ATTHILL said: This is a specimen of imperfect development of the rectum in the fœtus. It would not be correct to describe it as an imperforate anus, because the obstruction is half an inch above the anus properly so called. The child from whose body this specimen was taken was born in the Rotunda Hospital about a fortnight ago. It was a fine and, apparently, well-developed child, and at birth attracted no attention whatever. At the end of twenty-four hours, however, the nurse reported that no evacuation had taken place from the bowels, and she thought the child was forcing very much. On examination this was ascertained to be the case. The child, evidently, was making great but ineffectual efforts to expel the contents of the intestinal canal. Examined externally, the anus was normal, but on passing the finger into the rectum, it proved to be a mere *cul de sac*, terminating at the distance of about three quarters of an inch from the external orifice, and, above this, a portion of intestine, apparently much dilated, could be felt. It being evident that the child would soon die if not relieved, I passed my finger into the rectum, and guiding a canula and trocar of medium size along it, endeavoured to pass the instrument through the septum into the dilated portion of intestine felt above. That I succeeded in doing so was proved from the fact that when the trocar was withdrawn *flatus* was expelled, but no fecal matter followed. I hesitated at attempting anything further in the nature of a surgical operation, being altogether ignorant of the condition of the parts above the septum or of the depth it would be necessary to divide before continuation of the intestine could be reached. The next day, the child being in the same condition, another attempt was made with the trocar; and, after the canula had been left *in situ* for a short time, a few drops of dark-coloured fluid exuded, but nothing more. The child lived three days longer, and finally died. On examination after death, it appeared that the rectum was developed from above downwards to within about an inch of the orifice of the anus. The anus had developed upwards, but had failed to reach the downward development of the intestinal canal, and the result was that we had an imperfect development of the rectum, but not of the anus properly so called. The specimen is interesting as showing that external examination may lead to the supposition that nothing is wrong with a child; and that possibly a more vigorous attempt to divide the septum might, under similar circumstances, be successful.—Dec. 4, 1875.

CLINICAL RECORDS.

Notes from the Wards of the Cork Hospitals. Communicated by MR.
MARTIN HOWARD.

NORTH INFIRMARY.—*Case of Hydrophobia.* Under the care of THOMAS C. SHINKWIN, M.D., M.R.C.S.E.; Surgeon to the Infirmary.

David O'B., aged twenty-five, unmarried, presented himself for treatment in the extern surgical department on September 29th, 1875. He was of a robust and vigorous constitution, with a rather florid face, which at the time wore an anxious expression. The eyes were prominent and bright, and the pupils were dilated. He stated that he was a labourer in the employment of the Cork Distilleries' Company, and that the previous day he was at work, removing barrels of whiskey from a store, at the rear of which a quantity of closely-packed coal had spontaneously ignited. He was thus engaged for several hours; and to constant exposure to the irritating and disagreeable gases exhaling from the smouldering coal he attributed the symptoms under which he now suffered. These were inability to swallow liquids of any kind, which used to regurgitate back when an attempt was made to swallow them, restlessness, pain in the head, nervousness, and a general feeling of discomfort. He was brought over to a basin of water, and at first sight of it he drew back in alarm, but afterwards, taking courage, as it were, he stood firm and looked at it. A glass of water was next presented to him, and he stepped back as frightened as before. Then mustering up his courage, he seized the glass with avidity, drew in his breath a few times with a prolonged shudder, and gulped the fluid down without removing the glass from his lips. After drinking, one or more sighs of relief followed. No history of dog-bite could be ascertained. He was admitted under the care of Dr. Shinkwin, and ordered quarter-grain doses of Calabar-bean every half-hour. During the day the ungovernable agitation, and the distressing sense of suffocation excited by attempts to drink or even the sight of fluids rather increased than diminished, but he ate some dry bread with the greatest ease. If asked to drink, he would start with fright, and had to make a convulsive effort to recover his breath; but when encouraged, with an expression of terror, yet with great resolution, he would seize the cup and jerk the fluid down, panting for breath afterwards as if after violent exertion. Lighting the gas in the ward in the evening caused a violent spasm. He got a chloral and opium draught at night. Next morning, about four o'clock, the night-nurse ran down stairs in a state of great

excitement, and said the patient, O'B., had gone mad, and was threatening bodily harm to those around him. When Dr. Corby, House Surgeon, and myself, reached the ward, some of the convalescent patients were holding him down in the bed. He seemed very violent and excited, and was talking in a wild, incoherent manner, under the impression that he was about being murdered. One of the patients informed us that during the night O'B. was very restless, and was speaking strangely to himself, and that eventually he jumped out of bed, with a loud cry, and was leaving the ward when himself and a few more followed him and brought him back. On his way to bed, he made a leap at the gas-jet, and tried to extinguish it, and complained that men were pointing revolvers at him to shoot him.

Finding it impossible to restrain him, the strait-jacket was put on at once; and, while this was being done, he commenced spitting at a furious rate, the secretion being so great that at times he spat into the faces of those about the bed—for this he frequently apologised by saying he couldn't help it, and then he would ramble away again. The speech was very abrupt, the replies impudent, and the conversation energetic. Even with the strait-jacket, it was found very difficult to keep him in bed.

When Dr. Shinkwin visited the hospital the patient was somewhat quieter. The eyes had assumed a brighter appearance and seemed, as it were, inflamed, and the special senses were extremely acute and irritable. Sighing and priapism were both absent. The horror of fluids continued as great as ever, the violent delirium had subsided, the pulse was full and quick, the expectoration viscid, the pupils dilated, and he complained of pain in the head. A grain of the Calabar-bean was ordered every hour, for a few times, and then every second hour, with chloral and opium draughts every four hours.

In the evening he was quieter still, but his manner had grown peevish, and holding the glass of a watch before his eyes produced a spasm. At this time information was brought to the hospital of his having been bitten by a dog some weeks before, but the information was not considered reliable. The patient continued in this state for a few days, the excitement gradually diminishing, and before his death, which occurred on the 4th of October, he had become very quiet and experienced a little less difficulty in drinking, but the infiltration and injection of the eyes increased. Exhaustion was apparently the cause of death.

Priapism existed after death, the body became much discoloured and distended, and decomposition was rapid.

The prognosis of this case may be said to have been the only one of the three leading questions in the history of disease about which little, if any, difference of opinion existed. When the symptoms were at their height, a probable diagnosis was arrived at, but there were some who

doubted that the case was one of hydrophobia. Horror of fluids is of course a prominent symptom, and a very popular indication of hydrophobia; but there are persons who do not believe hydrophobia can occur independent of the bite of an animal, and who believe that horror of water may occur from other causes, and, in the absence of positive proof of the individual being bitten by a dog, they are at liberty, on the strength of holding such an opinion, to doubt that the case is one of hydrophobia. Dr. Shinkwin, in a treatise on hydrophobia,* relates cases where hydrophobic symptoms resulted without any history of dog-bite existing.

(a.) A soldier, who had never been bitten by any animal, went, while in a profuse perspiration, into a river, and remained for an hour and a half in the water. He was seized with shivering, feverishness, horror of water, &c. Next day the symptoms of hydrophobia appeared, and death followed in twenty-three hours.

(b.) A confirmed brandy-drinker had never been, either to his or his friends' knowledge, bitten by any animal. There was no mark of a bite on any part of his body, yet he presented all the symptoms of confirmed hydrophobia and died.

(c.) A soldier drank, at a draught, a pint of gin, and was suddenly seized with symptoms of hydrophobia, of which he died.

Now, take the citation of these instances, and the report of the case so far, and is it possible to affirm positively that it was a case of hydrophobia? He had hydrophobic symptoms, but neither his father nor himself stated he had ever been bitten by a dog, nor was there any mark of a bite upon his person. So far as could be ascertained, he was a tolerably temperate man; but, having case (c.) before your eyes, and recollecting that he was employed in a distillery store, and employed under peculiar circumstances, previous to the date of attack, in removing barrels of whiskey, are there not to you now, and were there not to others then, grounds for doubt? A rumour prevailed abroad that it was the coal-gas injured him, and it is to this rumour we are indebted for the certainty of the diagnosis, as the company instituted a most searching inquiry, which resulted in its being sworn at the inquest that the deceased had been bitten by a puppy dog five weeks before, which dog it was stated had also bitten several others, and was supposed to be rabid. "But," said the witness, "it was a mere scratch of a pin—in fact, I wouldn't call it a bite at all," and the circumstance of his father not being aware of it, and himself not mentioning it, proves that it must have been of a very trivial character. Hence, in commenting upon the cases above, Dr. Shinkwin observes that they "admit of the objection that the persons may have been bitten without either they or their friends being aware of it, or they may have forgotten it."

We have now established the diagnosis, and have gone into the subject

* Compiled from MS. Notes of the late Dr. T. S. Holland.

in detail to show the truth of another statement in Dr. Shinkwin's treatise—namely, "that symptoms in all respects, except as regards the causes, similar to those of inoculated hydrophobia occur in the human subject, totally unconnected with the bite of a dog."

As regards the treatment, Calabar-bean was not used, as may be supposed, because Dr. Shinkwin considered there was not any connexion between hydrophobia and tetanus. In the treatise already referred to the chief points of difference are narrated, and the author states that hydrophobia is a "disease distinct from tetanus in its cause, symptoms, and treatment."

But what drug will you prescribe in the treatment of hydrophobia that has not been prescribed over and over again, and over and over again proved totally ineffectual? And in every case of hydrophobia should not the grand object be, not to try hackneyed and useless remedies, but to adopt some new line of practice, in the hopes that some remedy may be found to save life in an invariably fatal disease? Doubtless, medicines like Calabar-bean, that act upon the spinal cord, will be powerless to arrest a disease like hydrophobia, which is a species of blood-poisoning, and in this way its failure can be readily understood.

In reviewing some of the remedial agents in the treatment of hydrophobia, Dr. Shinkwin has collected no less than 228 vegetable substances; and under the heading of "acids, alkalies, salts, bases," &c., 46; besides a host of such nauseous doses as "pounded ants, badger soup, the excrement of a calf, the brains and comb of a cock, the eyes of a crab, coral(!), tail of a shrew, shells of the male oyster," &c., &c.

"In all cases of bites caused by dogs, wolves, cats, or foxes," observes Dr. Shinkwin, "the parts should, if possible, be deeply and completely excised, and the cut surfaces freely, even brutally, cauterised." With regard to the cauterising agent, he thinks that "a preference should be given to those that are fluid or deliquesce rapidly, as their action is more evenly diffused over the entire surface than when nitrate of silver or the red-hot iron is used;" and he is of opinion that "in all cases anæsthesia should first be produced by chloroform, as the action of the caustic on the recent and often extensive cut surface often produces a prolonged and even dangerous agony."

A little way further on follows something which bears directly upon the case of those persons reported to have been bitten by the dog that bit O'B. He states that if a person has been bitten by a dog in whom there were good reasons for expecting madness to exist, excision or even amputation of the part should be performed, if this can be done "without endangering life or depriving the individual of a member essential to the attainment of his livelihood."

Difference of opinion, however, appears to exist as to the utility of excising the cicatrix. Some consider that the poison of hydrophobia

circulates in the blood, and that it would be as reasonable to suppose we could prevent the effects of syphilis—another form of chronic blood-poisoning—by excising the cicatrix of a Hunterian chancre as destroy the poison of hydrophobia by excising the cicatrix left by the wound.

“When the disease has been developed,” says Dr. Shinkwin, “the treatment by transfusion of blood appears to be most rational and the most likely to succeed.” He mentions that this operation was practised by Eye, of Suffolk, in 1792, who bled a man aged seventeen, until blood no longer flowed, and then transfused into him blood of two lambs, and the patient completely recovered.

Transfusion he considers the only remedy in which, at the present state of our knowledge, reliance should be placed; and he believes that “no remedial agent will probably ever be discovered capable of curing the disease after the symptoms have almost brought the patient's life to an end.”

METEOROLOGY.

RAINFALL IN 1875,

At 40, Fitzwilliam-square, W., Dublin.

Month	Total Depth	Greatest Fall in 24 Hours		Number of Days on which .01 or more fell
January, - - -	Inches 2·141	Depth ·279	Date 17th	23
February, - - -	2·477	·702	20th	17
March, - - -	1·040	·535	5th	14
April, - - -	1·008	·563	26th	12
May, - - -	1·071	·231	21st	15
June, - - -	2·989	·636	11th	20
July, - - -	2·751	·506	14th	18
August, - - -	1·883	·748	9th	14
September, - -	3·180	·610	21st	14
October, - - -	7·049	1·355	26th	26
November, - -	3·051	·934	13th	19
December, - -	1·310	·440	21st	13
Total, - -	29·950	—	—	205

SANITARY AND METEOROLOGICAL NOTES.

Compiled by J. W. MOORE, M.D., F.K.Q.C.P.

VITAL STATISTICS

*Of Eight Large Towns in Ireland, for Four Weeks ending Saturday,
January 1st, 1876.*

Towns	Population in 1871	Births Registered	Deaths Registered	DEATHS FROM ZYMOTIC DISEASES							Annual Rate of Mortality per 1,000 Inhabitants
				Small-pox	Measles	Scarlet Fever	Diphtheria	Whooping Cough	Fever	Diarrhoea	
Dublin, -	314,666	671	750	—	14	10	—	31	24	8	31·0
Belfast, -	182,082	542	458	—	4	20	6	4	7	6	32·7
Cork, -	91,965	167	285	—	14	10	—	6	7	8	40·3
Limerick, -	44,209	70	118	—	—	—	1	6	1	4	34·7
Derry, -	30,884	46	61	—	—	12	—	4	1	—	25·6
Waterford, -	30,626	66	85	—	—	—	—	—	3	2	36·1
Galway, -	19,692	29	46	—	—	—	—	—	1	—	30·3
Sligo, -	17,285	17	30	—	—	—	—	—	—	—	22·5

Remarks.

The death-rate was very high during this, the thirteenth and last "four week Period" of 1875, in all the towns except Derry and Sligo, in which it was moderate for the time of year. In London the rate of mortality was 26·7 per 1,000 of the population annually, in Glasgow it was 28·5, and in Edinburgh 23·7. Of zymotic diseases—Measles was fatal in Dublin and Cork; Scarlatina in Dublin, Belfast, Cork, and Derry; Whooping-cough and Fever in Dublin. The severe weather of the end of November and beginning of December told with deadly effect on the epidemic constitution. Of 750 deaths registered in Dublin, 207 were caused by affections of the respiratory organs. Of these 163 were due to bronchitis, but only 16 to pneumonia.

METEOROLOGY.

*Abstract of Observations made at Dublin, Lat. 53° 20' N., Long. 6° 15' W.,
for Month of December, 1875.*

Mean Height of Barometer, - - -	30·070 Inches.
Maximal Height of Barometer (9 a.m. on 8th), -	30·612 „
Minimal Height of Barometer (9 a.m. on 20th),	29·315 „
Mean Dry-bulb Temperature, - - -	40·9°
Mean Wet-bulb Temperature, - - -	38·9°
Mean Dew-point Temperature, - - -	36·4°
Mean Humidity, - - -	84·0 per cent.
Highest Temperature in Shade (on 21st), -	56·0°
Lowest Temperature in Shade (on 9th), -	26·7°
Lowest Temperature on Grass (Radiation) (on 5th),	23·6°
Mean Amount of Cloud, - - -	59 per cent.
Rainfall (on 13 days), - - -	1·310 Inches.
General Direction of Wind, - - -	W.S.W.

Remarks.

As in November, so in this month, two perfectly distinct types of weather prevailed. But they appeared in the inverse order. The cold period, which set in on the 20th of November, held until the 12th, when temperature rose coincidently with the establishment of barometrical gradients for N.W. and W. winds. An area of low atmospheric pressure now became permanently fixed in the extreme N.W., and along its S.E. border numerous bourrasques travelled towards N.E. But little rain fell, although, from the 19th to the 23rd inclusive, a westerly gale blew without intermission. On the 24th intense cold reappeared in the Gulf of Bothnia; but the weather remained open in Norway, the United Kingdom, and France, until the end of the month. Thunderstorms occurred at many Scotch and English stations during the stormy period in the week before Christmas. Hail fell in Dublin on the 1st, 4th, 5th, 6th, and 7th; snow fell on the 5th and 6th.

PERISCOPE.

Edited by G. F. DUFFEY, M.D., F.K.Q.C.P.

ON THE TREATMENT OF PLEURITIC EFFUSION BY OPERATION.

DR. EWALD contributes a valuable paper on this subject, founded on the results of all the cases treated in the Berlin University Klinik during the last fifteen years. The following are the conclusions at which he arrives:—1. Serous effusions should never be evacuated before the third week, unless there be imminent danger to life (*nur bei Indicatio vitalis*). If during the first three weeks no absorption occur, then tapping in the third or fourth week gives the best results. 2. If the tapping be so performed that no entrance of air is allowed, and if the instruments are previously disinfected, a serous effusion never becomes purulent. 3. In every case it should be previously determined, by puncture with a grooved needle (*durch Probepunction*), whether the effusion is serous or purulent. 4. In cases of purulent effusion the fluid should be evacuated as soon as possible by incision, not by puncture. 5. Cases of purulent effusion evacuated by incision in the present condition of treatment prove fatal in from 50–60 per cent. of those affected. 6. Bloody effusion (*i.e.*, cases where the effusion is from first to last bloody—not where it is at first serous, and becomes bloody towards the end of the operation by rupture of vessel in the pleura *ex vacuo*) invariably indicates malignant disease of the pleura. 7. Serous effusion, however, does not exclude the presence of tuberculosis or cancer of the pleura.—*Charité Annalen*.

J. M. P.

PRESERVATION OF ANATOMICAL SPECIMENS.

DR. G. BUFALINI (*Ann. Sc. ed. Industr. and Rev. des Sci. Med.*) has found that carbolic acid, combined with camphor, is an excellent preparation for the preservation of anatomical specimens. He prepares the mixture by bringing crystals of carbolic acid in contact with pieces of gum camphor. The crystals unite and form a substance resembling oil. He dissolves the whole in a sufficient quantity of petroleum, previously coloured with cinnabar, in the following proportions: two hundred grammes of petroleum, seventy grammes of carbolic acid and camphor; or, better, one hundred and thirty grammes of camphor and carbolic acid, and one thousand grammes of petroleum. The mixture may serve as well for injections as for the immersion of pieces that are to be preserved. The pieces harden, but become soft and flexible when they are plunged into warm water. This mixture is not dangerous, and does not injure or stain the instruments.

AN UNILOCULAR ECHINOCOCCUS CYST.

L. SCHNEPP describes (*Pester Med. Chir. Presse*, 1875, No. 33, and *Centralblatt*, No. 48, 1875) a case of a girl, aged twenty-five, who suffered from a tumour—non-fluctuating and somewhat larger than the size of the fist—situated in the lower and outer part of the right mammary gland. In consequence of the tumour the nipple was directed so as to look almost upwards. On an attempt being made to extirpate it, the tumour was discovered to be an hydatid cyst, which had broken through the ribs from the fifth to the seventh, and extended into the cavity of the thorax. Extirpation proving impossible under these circumstances, the sac was cut off to the level of the ribs, and the edges of the wound were brought together by sutures. It healed by the “first intention,” but there remained a thoracic fistula, which did not completely close for a year and a half. The author considers the development of the echinococcus to have commenced in the region of the pleura, that the cyst led to perforation of the ribs, and then proceeded without further check to form the tumour described.

J. M. F.

INHALATION OF NITROGEN IN CHRONIC PULMONARY PHTHISIS.

STEINBRUCK (*Allg. Med. Centralztg.*, No. 63) praises the inhalation of nitrogen as one of the best means against chronic tubercular disease of the lungs. In the first stage, after a sufficiently long and careful use of this treatment, as practised by the author, the disease “will be absolutely cured.” In the second stage “improvements and recoveries, such as have not been hitherto possible,” may be attained. On the other hand, this method of treatment is dangerous in the third stage. As examples, a few short cases are detailed.—*Centralblatt*, No. 47, Oct. 30, 1875.

J. M. F.

PRESENCE OF SUGAR IN THE BLOOD OF A HEALTHY MAN SHOWN BY REDUCTION, FERMENTATION, AND ROTATION.

THE presence of a substance in the blood of healthy men which reduces oxide of copper has been long known. This substance exists in very small quantity, and disappears from the blood some hours before death, so that it is not to be found in the blood taken in ordinary *post mortem* examinations. The quantity of blood which can be got from living men is too small to enable a full examination of the reducing substance, and although, from the known presence of sugar in the blood of diabetic patients and that of healthy animals, it is probable that the body in human blood is sugar, yet it cannot be absolutely affirmed. An accident enabled Dr. Ewald to obtain a very large quantity of the blood of a healthy man, who was crushed by the buffer of a railway engine, and, among other injuries, suffered luxation of the left clavicle from the sternum, fracture of the cartilage of the six first ribs on the left side, and

rupture of the left pulmonary artery. Upwards of 500 grains of blood were effused into the left pleura. Of this blood, 493 grains were treated with a large quantity of absolute alcohol, filtered, evaporated, the residue dissolved in water, decolorised with acetate of lead, the excess of which was removed with sulphuretted hydrogen. The resulting fluid was colourless, reduced the oxide of copper, fermented and rotated the polarised ray to the right. No doubt can, therefore, exist as to the presence of sugar in healthy human blood. From the rotation it would appear that the quantity of sugar was about 0.051 per cent. It would further appear that the opinion of Bouchardat, that the sugar of blood undergoes rapid change into lactic acid, is unfounded; such change does not occur for a considerable time, unless the temperature be very high. Dr. Ewald takes this opportunity of correcting an error into which he had previously fallen. The reducing substance which he found in the urine in cases of poisoning by nitrobenzole, and which he supposed to be sugar, he now finds to be incapable of fermentation, and to rotate the polarised ray to the left. In consequence of this mistake he has examined the urine in the diabetes following injury of the fourth ventricle, poisoning by curara, amyl-nitrite, and lactic acid. In all these cases the reducing substance ferments, and rotates to the right, and is consequently sugar.—*Berliner Klinischen Wochenschrift*. 1875. No. 51.

J. M. P.

PICROTOXIN IN LABIO-GLOSSO-PHARYNGEAL PARALYSIS.

M. GUBLER has lately tried in a case of the above affection picrotoxin,* the action of which upon the spinal marrow and the bulb has recently been studied by Dr. Planat. Before the administration of this drug the patient could not swallow or pronounce distinctly; after the administration of picrotoxin a most marked improvement was produced. Deglutition could again be accomplished, and the patient could pronounce words distinctly. The latter improvement was not maintained, but deglutition continued to be performed without very much difficulty. The picrotoxin, procured from Duquesnel, was given subcutaneously, in doses of 1 milligramme (gr. $\frac{1}{70}$) in solution. These injections were not painful, but they caused a very persistent induration of the cellular tissue.—*Bull. de Therap.*, November 30, 1875.

THE IMPORTANCE OF THE CUTANEOUS FUNCTION FOR THE TEMPERATURE OF THE BODY AND THE REGULATION OF HEAT.

DR. WINTERNITZ contributes a paper of great interest on this subject. His conclusions, of which we give a translation, are founded on a large number of experiments, for the method and details of which we must refer to the original.

* A crystalline principle contained in the seeds of the *Cocculus Indicus*.—[G. F. D.]

1. The increase and diminution of loss of heat from the skin can be stated approximately in figures.

2. Experiments show that the giving off of heat may vary more than 60% downwards, and more than 92% upwards.

3. Such a variation in loss of heat can compensate variations in the production of heat three times the normal amount.

4. The discoverable variations in the loss of heat suffice to explain the constancy of temperature, so far as it exists under the usual cooling and warming influences.

5. The diminution in the loss of heat, consequently its retention, after previous loss, even if the production remain constant, is sufficient to replace in a short time the loss of temperature.

6. A diminution in the loss of heat alone can in many cases explain a febrile rise of temperature.

7. The possible increased loss of heat of more than 92% explains the frequently observed rapid disappearance of fever.

8. There is, consequently, no doubt that one of the most important factors in the regulation of temperature is to be found in the function of the skin.—*Stricker's Jahrbücher*. 1875. P. 1.

J. M. P.

INFUSORIA IN FEVER STOOLS.

DR. FELIX MARCHAUD, of Berlin, reports the case of a young man, aged fifteen, suffering from enteric fever, in whose stools, in addition to bacteria, he observed infusoria in a state of great vital activity several times during the earlier stages of the disease. They were of a roundish triangular form, compressed laterally, the posterior angle was elongated into a long cilia-like tail, and some long cilia were placed round a depression near the front of the ventral surface. To these structures the rapid movements of the animal were doubtless owing. In the interior were seen some granules and one or two vacuoles. In addition to these forms were others which exhibited motions rather of an amœboid character, but which, however, possessed cilia and vacuoles which the author regards as the imperfectly-developed condition of the former. He gives as measurements, length (exclusive of tail), 0.013 mm.; width, 0.0075-0.009 mm.; length of tail, 0.003 mm. The disease ran a moderately severe course, and ended in recovery.—*Virchow's Archiv*. Bd. 64. Heft II.

R. J. H.

A NEW REACTION FOR PARTS IN AMYLOID DEGENERATION.

Two papers have recently been published on this subject, apparently without any collusion on the part of the authors. M. Cornil, in the *Archives de Physiologie*, 1875, p. 671, describes the results he has obtained

by the use of two violets of methylaniline, made in the manufactory of M. Poirier, and by the use of Hoffmann's violet. These colouring matters, used in watery solution, will stain either fresh or hardened preparations. The undegenerated parts take a blue colour, while those which have undergone the amyloid change become red. The specimens may be treated with acetic acid, and preserved in dilute glycerine. The staining is extremely sharp, brings out fine details much better than iodine and sulphuric acid, and, above all, is permanent. M. Cornil gives many interesting details, which he has made out by this method in amyloid kidney, liver, and spleen. Judging from the two coloured plates which accompany this paper, the reaction seems a very beautiful one.

The second paper is in the November number of *Virchow's Archiv*, s. 189, and by Dr. Jürgens. He uses a violet got by a combination of iodine-methyl, and aniline. The substance is difficult to obtain, and its chemical composition seems doubtful. It is used in 1% watery solution. It also stains undegenerated parts blue, and those in amyloid degeneration red, and if we may conclude from the plate, the contrast is even more marked than with Cornil's colours. Fresh or hardened tissues may be used. Glycerine is employed for preservation of the specimens, which rather improve by keeping. We must refer to the original for the details of the examination of prostatic concretions, liver, kidney, thrombotic concretions in chronic endocarditis, &c., given in the paper. There is, however, one discrepancy in the results of these authors which has struck us, and which we may notice. Cornil, in amyloid disease of the kidney, professes to have found that in the arteries and veins the disease always affects principally the intima, and that the hyaline tube-casts never show the colour characteristic of amyloid change. Jürgens, on the other hand, finds the media of the vessel invariably first affected, and has not only found the tube-casts in the kidney, but also in the urine passed before death, presenting in a well-marked degree the amyloid reaction. He even thinks that one of the great advantages of his method is that it will enable us to detect amyloid disease by the reaction of the casts in the urinary sediment, the iodine test seldom giving satisfactory results under such circumstances.

J. M. P.

FIBROMA MOLLUSCUM CYSTICUM.

A SPECIMEN of this rare form of abdominal tumour, removed by Mr. Spencer Wells, has been examined by Professor Virchow, and described by him in his *Archiv*. The operator stated that the tumour was retro-peritoneal, and that both ovaries and the uterus were healthy. The right ovary and part of the Fallopian tube were removed with the tumour, and seven litres of pus are said to have been taken from it before it came into Virchow's hands. Virchow found the ovary and

Fallopian tube healthy; the collapsed tumour took the form of a flat round mass, measuring 30 cm. by 6-7 cm. In addition to the main opening into the cavity, the surface was torn in some places, and here large masses of soft flocculent material protruded. The cavity was eccentric, about the size of a bead, and did not present the usual appearances of a cyst, but was covered by a coarse, reticulated arrangement on the outer wall, and layers of fibrinous pus on the inner. The appearance altogether resembled that met with in the pleura in a certain form of chronic empyema. Throughout the rest of the tumour the appearances were those of well-conditioned, fresh tissue; and only in a few places were there any spots presenting the same yellow colour that was met with in the interior of the cyst. The thin outer wall resembled in some respects the wall of the uterus after delivery. The thicker mass consisted of strong white vascularised trabeculæ, enclosing colloid material in its meshes. Microscopic examination showed this to be fibrous tissue, quite free from anything like unstriated muscle. The fibres vanished on the addition of acetic acid, leaving a peculiar granular striation. There was nowhere any stringy or membranous precipitate, and hence no mucin. In the firmer trabeculæ, after treatment with acetic acid, fine spindle-shaped and branched cells were seen, while in the inter-trabecular tissue were vast numbers of large round cells, presenting in some places a strong tendency to fatty metamorphoses, similar to those seen in the soft myoma of the uterus. Further, the vessels showed especially distinctly the cellular elements of the walls.

Virchow concludes that the tumour is to be regarded as an example of what he has described as fibroma molluscum, which has a special tendency to occur in the region of the sexual apparatus. He had already established the occurrence of analogous forms, not only in the ovary itself, but also in the broad ligament and in the vicinity of the ovary; and he is inclined to believe that this tumour was originally similarly placed and solid, and that it subsequently underwent cystic degeneration.—*Virchow's Archiv*. Bd. 63. Heft IV.

R. J. H.

MECHANICAL TREATMENT OF SEPARATION OF THE RETINA.

In a preliminary communication Dr. Samelsohn attributes the unsuccessful treatment of separation of the retina to the imperfect views which prevail as to the pathogenesis of this condition, which, although merely a symptom, continues to be, like icterus, spoken of as if it were in itself a disease.

The retina is under normal circumstances kept in position by the equilibrium between two opposing forces—viz., the intra-ocular pressure on the one hand, and the elasticity of the outer coats of the eye (Bulbus kapsel) on the other. If only one of these forces diminish, the other

remaining unimpaired, no separation will occur. This is seen in operations which open the globe, and in such conditions as essential phthisis bulbi, when, although the intra-ocular pressure is considerably and suddenly lowered, nevertheless the elasticity of the coats is sufficiently great to counteract this, and the retina remains *in situ*. When, however, from over-distension or other cause, the ocular coats have lost their elasticity, as in the sclerochoroiditis of progressive myopia, then they are no longer able by their elastic recoil to counterbalance any sudden loss of intra-ocular pressure, and such is very likely to be followed by retinal separation.

The loss of elasticity of the coats of the eye is dependent on a progressive change, over which we have but little control; but the diminution of intra-ocular pressure is generally temporary, and tends of itself to disappear. We do not know its cause, and consequently cannot influence it directly, but indirectly we can obviate its injurious effects, by keeping up pressure on the eye until the tension is restored. The pressure prevents further effusion, and favours the absorption of that already poured out.

The method proposed is the methodical application of the pressure bandage, combined with perfect rest in the recumbent position. This has in all the cases of recent separation so treated (twelve in number) given good results. The bandage is to be adjusted twice daily, and to be worn for three or four weeks. The unaffected eye need only be protected by a shade. Very soon an increased sharpness of vision and extended field are noticed. Periodical examinations do not interfere with the treatment, which must not be too soon abandoned, for fear of relapse.—*Centralblatt*. 1875. No. 49.

J. M. P.

THE BLUE LINE IN LEAD-POISONING.

IN order to distinguish the gingival line caused by lead from other discolorations on the gums which may resemble it, M. Cras (*Arch. de Méd. Nav.*, XXVII.) excises the edge of the gum, and examines it under the microscope. He finds that the lead-line does not result from a tattooing of the gums by some metallic particles having penetrated into the epithelial cells, or more deeply. It is due to transformation of a soluble salt of lead into a sulphide precipitated in the capillaries by the retarded circulation in the gums, owing to the vicinity of the putrid detritus surrounding the neck of the teeth. It is, then, an injection of the capillaries by the sulphide of lead. M. Cras supposes that analogous vascular obliterations in the intestines are, perhaps, the cause of saturnine colic.—*Rev. des Sci. Méd.* Tome VI. 2^{me} Fas.

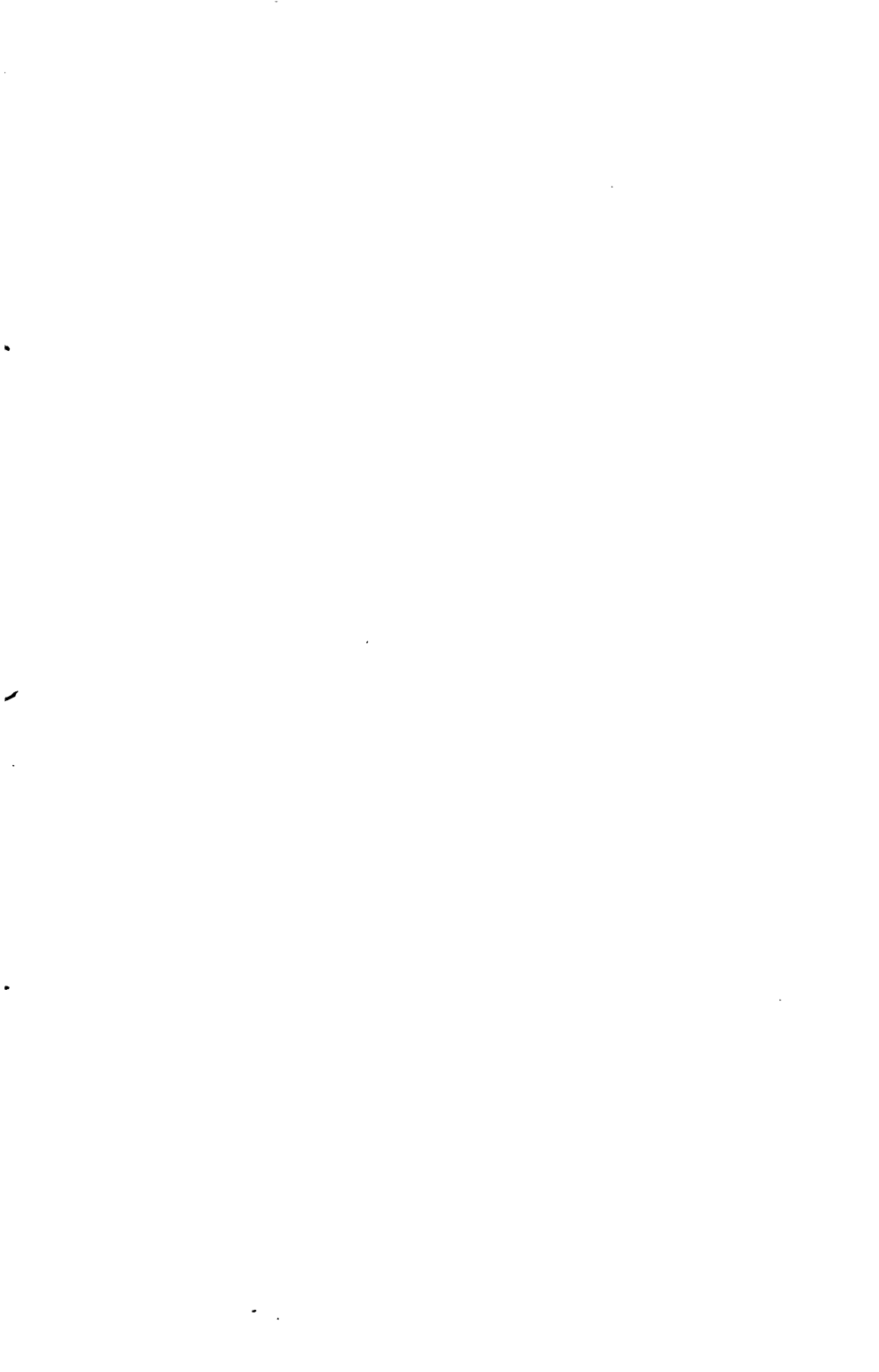


PLATE I.

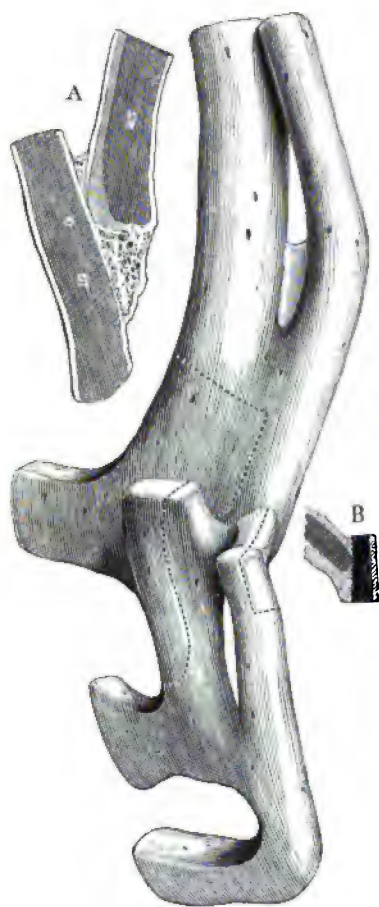


Fig. 1.



Fig. 2.

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PART I.

ORIGINAL COMMUNICATIONS.

ART. X.—*Fractures of the Costal Cartilages.** By EDWARD H. BENNETT, M.D.; Professor of Surgery in the University of Dublin; Surgeon to Sir Patrick Dun's Hospital, &c.

THE small number of observations of fracture of the costal cartilages which have hitherto been published induces me to record the instances of this injury which I have had the opportunity of examining. As usually happens where the observation of facts is confined to a few specimens, wide differences of opinion are found in the accounts of this injury given by surgical writers, and in many the most dogmatic general assertions, based on particular instances, are made. The most complete collection of recorded cases is, as far as I know, that published by Gurlt,^b numbering in all thirty, in one half of which exactly are pathological details to be found. This list contains almost every known case up to the year 1865, and the number since added is but small—six referred to by Mr. Holmes^c in his recent work, and, probably, a few others.

The account published by Lobstein, who first described the mode of union in this injury, and that by Boyer, form the basis of the majority of the current descriptions, and their very words are sufficiently often copied without being acknowledged. The most

* Read before the Dublin Biological Club.

^b Hdb. der Lehre v.d. Knochenbrüchen.

^c Surgery, Principles and Practice. P. 124.

elaborate of recent French treatises on fractures—that by M. Anger^a—quotes, as the opinion of Boyer, an error that Boyer had himself, so long ago as the year 1818, most carefully corrected. Of this opinion—"that the cartilages of the ribs were not susceptible of fracture until they had become ossified in consequence of advanced age," which M. Anger quotes as that of Boyer^b—we find the latter writing, in 1818:—"But experience has demonstrated that this opinion, which appeared founded on observation, and which we had ourselves adopted, was not exact." F. H. Hamilton^c similarly ignores Boyer's correction of the opinion above quoted, while, strangely enough, he uses the very words of the author in describing the fracture.

The description of the mode of union recorded by Lobstein, in 1805, has had much influence on every subsequent writer. By many, indeed, it is described in terms plainly derived from his description, which I shall presently quote. Mr. Erichsen, for example, says—"the broken cartilage most commonly uniting by a bony callus, which surrounds the fractured ends." Yet it will be seen that this description applies only to cases where the fractures of the cartilage do not overlap, and even in these cases it misses the point noticed by Lobstein with reference to this bony ring, "that it is larger on the posterior face and both borders of the cartilage than on the anterior surface"—a point of interest, and difficult of explanation in the pathology of the injury. Gurlt^d appears to be the first to describe and to figure the second mode of union; yet it will, I think, be seen that while he is exact in his representation, a remarkable feature of the union has escaped his notice.

The circumstances under which these fractures take place are, I think, capable of being divided into three classes—the first including cases in which the injuries to the cartilages are of secondary importance, complications or results of more extensive and graver injuries; the second, cases where the fractures occur from direct violence, limited in its action to the seat of fracture, and not involving the thoracic viscera gravely or the adjoining bones; the third class, certainly the least familiar, includes cases where the fracture results from the violence of coughing, or similar muscular

^a *Traité Iconographique des Maladies Chirurgicales.* P. 362.

^b *Traité des Maladies Chirurgicales* 1818. T. III., p. 152.

^c F. H. Hamilton—*Fractures and Dislocations.* P. 178.

^d *Loc. cit.* Vo. II., p. 260, f. 22-24.

exertion, favoured by structural disease of the lungs, pregnancy, &c. The existence of recorded cases of the accident produced in this way is sufficient to put aside the dogmatic assertion*—"the accident is invariably produced by external violence."

In the first class we have opportunities of studying the recent fractures of the cartilages, for such cases are often fatal shortly after the receipt of the injury; in the second occur the instances of united fracture, which possess a greater pathological interest than those contained in the first group. To the first of these groups belong two of the instances which I shall describe, and to the second the remaining four. Of the existence of the third, the cases recorded by Gurlt are sufficient evidence. The majority of authors agree as to the direction of the line of fracture, yet, even here, we find some directly opposed opinions. The fracture is commonly described, in the words of Boyer, as being "*nette et perpendiculaire*," not, as in the ribs, "*inégaie et oblique*." Anger asserts that but a single instance of oblique fracture exists—an instance recorded in the thesis of Dr. Manuel (Paris, 1855); while, on the other hand, a single authority, Gross, holds that "the direction of the fracture is commonly somewhat oblique."

In reference to the seat of fracture, the guarded statement of Boyer, "that hitherto fractures of the cartilages have been observed between the fifth and eighth ribs," deserves to be noted, for it is one which might well have been followed by more recent writers. We find in the "Cyclopædia of Practical Surgery"^b the following:—"Those only which join on to the sternum seem ever susceptible of this injury," yet many instances of fracture of the eighth and ninth ribs are on record.

If Anger be correct in limiting the number of oblique fractures recorded to one—a point on which I am unable to test his accuracy, as I have myself found but one recorded, and I have not been able to obtain Manuel's thesis, which, for all I know, may contain the same case—I am fortunate in being able to add a second instance of oblique fracture to the list; but, in so doing, I must point out that the word oblique applied to this instance, while correct, is to be received in a more limited sense than we apply it to fractures of long bones. The term "oblique" expresses in the latter a path of fracture oblique to the central axis of the bone; here it implies only obliquity to a plane passing through the axis antero-posteriorly,

* Gross—System of Surgery. Vol. II., p. 166.

^b Costello. Vol. II., p. 341.

for the fracture still preserves its direction perpendicular to the vertical plane.

Next to the direction of the fracture naturally follows the description of the resulting displacement.

Much discussion has existed on this subject, started by the observation of Magendie, "*qu'elles sont constamment accompagnés d'un déplacement dans laquelle le fragment externe passe derrière l'interne.*" The sternal or internal fragment was, in each of the five cases recorded by him, displaced, so as to overlap the outer, or vertebral, fragment. To account for this displacement a theory was adopted, that it was due to the action of the triangularis sterni muscle and of the external intercostals, and, consequently, must take place in all cases. This theory was upset by an observation by Delpech of an instance in which these conditions were reversed.

The view of Delpech on this matter goes, perhaps, nearest the truth—that the displacement is liable to occur as in Magendie's cases, the internal fragment forwards when the fracture takes place near the sternal end of the cartilage, and the reverse when the injury is seated near its vertebral extremity; for, no doubt, when the fracture is within the region of action of the triangularis sterni, it may be affected by the muscle.

In many cases displacement occurs to a very slight degree, and the fragments do not overlap, as in Case III. In Cases IV. and V. we observe, so far as they go, strong support of the opinion of Delpech. In the face of these facts and opinions we cannot, with our present knowledge of the subject, adopt the sweeping assertion of Anger:—"The displacement in fractures of the costal cartilages is entirely independent of muscular action, not being at all dependent on the direction of the line of fracture, which is always absolutely transverse; it is produced by the action of the violence which has broken the cartilage." In the same passage, almost, he refers to the occurrence of an oblique fracture.

The statement of the facts at my disposal is, I think, the next in order. Afterwards I can with greater ease discuss the points of pathology illustrated by them and by the published cases I have been able to study. I say able to study, for I regret that I have not been able yet to obtain the memoirs of Saurel or Manuel. I believe, however, that I have at least a summary of their results in more recent authority.

CASE I.—*Fracture of the Cartilage of the First Rib on one side; Fracture simulating separation of the Cartilage of the First Rib from its Rib on the opposite.*

The patient—a man past middle age—from whom these specimens were taken, died of extensive injuries received in the fall of the roof of the Retort house of the Alliance Gas Works in 1874. The man, as foreman workman, was engaged with three others in executing some repairs on the roof when, suddenly, the entire structure fell. The men were more or less injured, being buried among the iron and slates of the roof. The foreman was, however, the only man who died directly of the injuries. He had sustained fractures of the right thigh, leg, and arm; fracture of every rib of the right side, and of many of the left; rupture of the fibro-cartilage between the manubrium and gladiolus sterni; and, lastly, fracture of the first costal cartilage of the right side, and, on the left, fracture of the first cartilage, which simulated separation of the cartilage from its rib. He died of the effects of the thoracic fractures in two or three hours after the injury, his death apparently being produced by the loss of respiratory power and by the mechanical difficulty resulting from great injection of the connective tissue and pleural cavities with air.

The only parts of his injury that concern us at present are the conditions of the first ribs and their cartilages.

Exactly similar fractures have detached the heads of both first ribs, passing from the upper and posterior borders obliquely downwards through either neck; the separation of the left costal cartilage from its rib is strictly transverse at the line of junction of these structures, and so a small lenticular scale of cartilage is left filling the normal hollow which in the rib receives the cartilage. On the right side the cartilage (if it can be so called) was divided nearly transversely close to its middle, the line of fracture taking place in a direction perfectly symmetrical with the injury of the opposite side. It is proper here to notice that the cartilages of both first ribs are extensively ossified in this instance, the bony matter being, as it is so commonly seen in this part, formed first and chiefly in the perichondrium, not in the axis of the cartilages, as is apt to be the case in the longer costal cartilages. This ossification had rendered the cartilage on the left side almost absolutely rigid, while on the right it formed two cylinders, which met and all but fused at the middle of the cartilage; this distribution of the

strength of new matter seems to have determined the slight difference between the fractures on the two sides; for it is evident at a glance that the force which caused them and the fractures of the necks of the first ribs acted directly and symmetrically on the first bone of the sternum.

The fractures of the cartilages took place, therefore, at the weakest points—the only parts where they were free of an extra support from the bony growth which invests them.

This observation sustains the opinion of Klopsch,* that the so-called luxations of the cartilages from the ribs are in reality fractures of the cartilages, for on the left side such dislocation would appear at first sight to have occurred, but fracture of the end of the cartilage has undoubtedly taken place.

CASE II.—*Oblique Fracture of the Third Costal Cartilage.*

I should hardly put forward this case, or indeed the previous, but that they support my view that many of these injuries are to be regarded as secondary fractures, and because this instance shows that a costal cartilage may be broken in a direction other than transverse.

The patient, a railway porter, fifty-six years of age, was admitted to Sir P. Dun's Hospital on 18th May, 1874, having been crushed between the buffers of a carriage and the fixed buffers of a siding. He was stooping when caught by the buffers, so that the lower part of the right side of his chest received the crush. He died of intra-abdominal hæmorrhage within an hour after his admission. The blood was shed from an extensive laceration of the liver. The ribs on his right side, from the third to the twelfth, were broken, the line of the fractures running obliquely backwards from the middle of the third rib to the neck of the twelfth, while the fourth and fifth ribs were broken again close to their junction with the cartilages. The sternum was fractured obliquely, the fracture running from the third intercostal space on the left side upwards to the centre of the junction of the third cartilage on the right side. Here the fracture entered the costal cartilage and passed through it obliquely to its upper border, just half an inch from the sternum. In the recent state the perichondrium on the upper border of the rib was entire and held the edge of the fracture together at the upper border. Looking at this fracture, and considering, at the same time, the other injuries sustained by the man, it is, I

* *Dissertatio Inauguralis*, &c. Vratslau. 1855.

think, clear that the exceptional character of the fracture of the cartilage is due to the fact that it was the direct continuation of the sternal fracture and consequent on it. The path of the fracture is, as I have stated above, oblique only with reference to a plane perpendicular to the anterior surface of the cartilage.

CASE III.—Fractures of the Eighth and Ninth Costal Cartilages, united with Overlapping of the Fragments.

I obtained these specimens (Plate I., Fig. 1) during dissection in the year 1873, and know nothing of their life-history further than the fact that they did not in any way appear to have been concerned in the disease which caused the death of the subject—a male of about fifty years of age.

The fractures of both cartilages are transverse and nearly in a line, that of the ninth rib being placed only three-fourths of an inch from its extremity. The vertebral fragments are in both instances displaced forwards, and that of the eighth rib overlaps the sternal fragment fully half an inch. The deformity of the chest wall caused by the projection of this fragment was the circumstance that directed my attention to the fractures during the dissection of the body; no ring or ferrule of callus can be seen on the anterior surface of the fragments. In front the fragment projects so far that we can see behind its free extremity; in the preparation this projection casts a shadow on the chest-wall adjoining. Viewed from the pleural aspect, the angle underneath the sternal fragment is seen to be filled with a substance which throws a thin layer on to the free extremity of the fragment; felt with the edge of the knife this substance grates as bone.

To examine the union in detail it was necessary to make a section through the fragments and their uniting callus. This section is carried through the centre of the external surface of cartilage, and as nearly vertical to the surface as possible. To shorten the descriptions, I may state that I have cut each of the remaining specimens in the same way (Plate I., Fig. 1, A). The section shows many interesting details:—

First, that the union of the fragments is mainly effected by osseous matter deposited so as to fill up the angle formed by them on the pleural aspect.

Secondly, that the interval between the fragments is filled to some extent by a similar deposit of bone, but chiefly by a development of new cartilage on the surface of the internal fragment,

distinctly visible beneath the perichondrium. This deposit contrasts strongly in colour with the original cartilage, and can be traced for a considerable distance along the edge of the section of the cartilage, tapering gradually away from a point of maximum thickness near the junction of the fragments.

The appearances of this specimen repeat very closely those represented by Gurlt in the figures referred to above, representing similar sections of a specimen which exists in the Museum at Giessen. I shall return to their consideration in describing the minute structure and probable development of the uniting callus in these fractures. It is sufficient to notice at present that the appearances of this specimen bear out in all, except one important detail, the statement of Magendie, adopted by Cruveilhier, "that fractures of the cartilages unite by a callus in every respect analogous to that of the bones.

This difference, I think, consists in the distribution of the callus at the extremity of the fragment which projects towards the pleural cavity, and in the angles on this side of the section only. The callus fails to deposit in a similar manner on the extremity of the fragment projecting outwards. This difference in the distribution of the callus, although of little practical importance, is worth noting, for it does not appear to admit of any very ready explanation. It will be seen even better marked in Case IV. The fracture of the ninth rib (Plate I., Fig. 1, B) is within half an inch of its extremity, and consequently is very minute in its details, but they are entirely similar to those of the eighth, the fragment being more displaced.

CASE IV.—*United Fractures of the Sixth and Seventh Costal Cartilages of the Right Side.*

This specimen (Plate I., Fig. 2) has been preserved dry in the museum of Trinity College for many years, but nothing is known of its history. The fragments are placed much nearer the sternal extremities of the cartilages than in the last case; they are transverse, and almost directly in line with each other—that of the sixth rib is placed just two inches distant from the sternal end of the cartilage. The fragments overlap almost to the same degree as in the last specimen, but the direction of the displacement is reversed; the sternal fragments project forward, the vertebral towards the pleural cavity. This displacement is that which for some time was regarded, on the authority of Magendie, as the rule in these fractures, and



PLATE II.



Fig. 1.



Fig. 2.

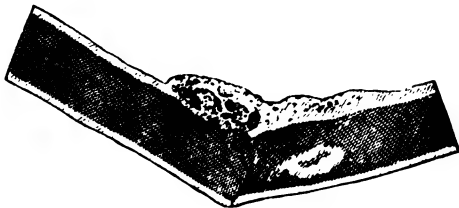


Fig. 3.

was supposed to result from the action of the triangularis sterni muscle on the external fragment—a theory first set aside by the observation by Delpech of a fracture similar in its deformity to the preceding case (No. III). The section made, as described above, through these fractures exhibits a disposition of bony callus similar to that in Case III., but evidently more completely formed; the fragment displaced towards the pleural cavity is bedded between two bony processes which stand on the pleural surface of the sternal fragment like two teeth of a saw with the intervening notch filled up by the extremity of the vertebral fragment. The bony processes are composed of open cancellated tissue, with a well-formed compact crust. There is in this specimen no visible development of new cartilage, as in No. III.—a matter explained, I think, by the fact that union is completed in this specimen, while in No. III. it is incomplete, arrested by too early a death of the subject. In the place of an incompletely-developed osseous callus, such as No. III. presents, we see in this specimen fully-formed bone, both in the larger portion of the callus which abuts against the extremity which projects towards the pleura, and in the part between the fragments which appears to be last developed; in this last portion we find cancellated bone in place of new cartilage and a few grains of calcareous matter. The microscopic examination of No. III., to which I shall refer presently, I think fully supports this view.

The fractures of both cartilages are in this specimen identical in character and union, so that a separate description of them is unnecessary. Fig. 2 is drawn from the section of the cartilage of the sixth rib. A moderate superficial ossification has extended over both cartilages from the sternum, and, as the sections show, many spots of calcification are visible in their substance throughout. The paths of the fractures have touched but one of these spots, just at its margin. From these conditions we may fairly infer that the subject from whom they were taken was past middle age. The drying of the cartilage has slightly altered their curves, except in the neighbourhood of the fracture, where the callus has maintained them very completely.

CASE V.—*Fracture of the Ninth Costal Cartilage, united by
Ensheathing Callus.*

This specimen (Plate II., Fig. 1) is the entire cartilage of the left ninth rib, which has been broken transversely, and in which the least

possible amount of displacement has occurred. I possess no history of it, for, like the last, it has lain long in the Museum of Trinity College without any note attached to it.

It is of great interest, as in it only does the mode of union closely correspond with Lobstein's original description. I may translate Lobstein's words:—"I have found in the body of a man, fully aged, a fracture of the cartilage of the seventh rib of the right side. The two fragments were not exactly face to face, in consequence of the vertebral fragment having passed in front of the sternal. The consolidation of this fracture was effected by an osseous ring, larger on the posterior face and on the two borders than on the anterior surface. This ring surrounded the fractured extremities, and was closely adherent to them. It was formed of a substance but little compact, and the texture appeared to be the same as that of the ribs."^a It is evident that in the specimen referred to in this account the faces of the fracture, though displaced, were yet to a great extent opposed. In this specimen a displacement to a slight degree and in the same direction has occurred, and the callus ring described as so constant a feature, though as the previous cases and those figured by Gurlt would prove, not so in reality, has a form exactly answering to Lobstein's description—thinnest at the front, thickest on the borders and behind on the pleural surface. The entire axis of this cartilage is converted into bone, and the bone has evidently been fractured, for its cancelli are seen suddenly interrupted on the face of each fragment (Plate II., Fig. 1). There does not appear to have been any attempt at union between either the opposed cartilage or bone fractures. The dry condition of the specimen, previous to the section which I have made, renders it impossible to state with accuracy the nature of the material which occupied the interval seen in the section, but the details of the uniting ferrule can be readily made out in a thin section. Enough is seen here and in the other specimens described to show that the opinion of Magendie, endorsed by Beclard and Cloquet^b—to the effect that ossification of the cartilages is necessary in order that a bony callus should be formed in fracture of the costal cartilages—is untenable. In none of these instances, nor, indeed, in any of the recorded cases of which I can obtain the details, do I find grounds for this opinion, yet Cloquet states that he has many times verified it with Beclard; that he has observed the broken

^a *Traité d'Anatomie Pathologique.* T. I., p. 339.

^b *Dictionnaire de Médecine.* T. IX., p. 424.

cartilages united by a veritable ferrule of fibro-cartilage, which enclosed their extremities, yet none of his cases exist on record. He probably speaks of experimental fractures in the lower animals.

As I have stated, the first error which appears to have arisen in this matter was—"that ossification of the cartilages was necessary to their fracture." This we see contradicted, at his first opportunity, by the very authority who first started it, but it yet hangs about the subject. Its denial is only just accepted both in France and America, where writers appear, by the prominence which they give to the denial, to claim some originality in enunciating it.

CASE VI.—*Fracture of the Eighth Costal Cartilage, united with Angular Deformity.*

I have had the good fortune to obtain this specimen since the previous part of this paper was written. I found it in a male subject, fully fifty years of age, brought into the anatomical rooms of Trinity College for dissection. My attention was called to the subject, as it presented fractures of the leg and also of the thigh on the left side. Seeing such evident traces of injury, and having the consideration of fractures of the costal cartilages uppermost in my mind, I naturally looked to their condition in this body. My search was at once rewarded, for I had no difficulty in detecting this fracture of the eighth cartilage of the left side, the same as that of the injuries of the lower extremity.

Although I cannot make any certain deduction from a case such as this, of which I have no life-history, yet it does not seem very far-fetched to assume that, in all probability, this man sustained the fracture of his costal cartilage at the same time as one or both of the fractures of his lower extremity.

As yet I know no certain data which can enable us to answer the question—how much time is necessary to complete the union of a fracture of the costal cartilages? Many cases are on record which prove that the motion of the fragments is confined by union of some sort, nearly as rapidly as in fractures of the ribs; but the slowness in the rate of completion of the union, as compared with bone fractures, is evident from the examination of even the five cases which I now submit. In but one (Case IV.) of the four cases presenting union, is the process at all complete, and in the others each step of the process can be observed in progress. In bone fractures met under similar circumstances, and in the fractures presented by the lower limb of this subject, nothing of the kind can

be seen. Anyone who is familiar with the pathology of bone fractures will admit that it is far from easy to obtain specimens, apart from those obtained by direct experiment on the lower animals, which will exhibit the details of the process of ossification of callus, as we find it here and in the other specimens. In this body the fractures of the bones of the leg and thigh present characters that lead me to conclude that they were not of ancient date, and that, in all probability, they were sustained at the same time; but in them, though probably only a few months old, we find no trace of ossifying callus—all is ossified, and there remains to complete the union only the absorption of parts of the old tissue of the fragments, such as tends to re-establish the medullary cavities.

In the accompanying woodcut (Plate II., Fig. 3) the relation of the fragments of the broken cartilage is seen. They form an angle, projecting sharply outwards, while the fragments do not overlap, an appearance which suggests that muscular action has some effect in these injuries, although it is entirely set aside by Anger in the passage I have quoted above.

The callus in this specimen is deposited entirely on the pleural side of the fracture, and is chiefly composed of new cartilage. In the posterior part a considerable amount of bone is deposited, and this bone is carried for a short distance between the fragments in the manner described by Malgaigne, "*On voit que la virole envoie entre les surfaces des cartilages une lame osseuse qui les tient réunis et séparés à la fois.*" The ferrule is, however, entirely wanting, there being no callus deposited on the external surface, beyond a grain or two of earthy matter. On the face of the extremity of the vertebral fragment new tissue is formed, which, on microscopic examination, does not appear as yet to have attained to the structure of cartilage—mere embryonic tissue.

Before closing this paper it is necessary to give the details of the microscopic examinations of the specimens which I have described, so far as I have been able to make them with anything like completeness.

I think that more is to be learned with reference to the predisposing cause of fracture from the microscopic examination of the cartilages than one would at first expect. It is clear that age, although it does not necessarily imply ossification, is a predisposing cause of this fracture, for up to to-day no instance—except Malgaigne's case of a youth, aged seventeen—of this fracture in

the young is recorded. The presence of ossification certainly predisposes to fracture, and, as my first case would show, determines its position in some rare instances; but what is the predisposing cause in cartilages free, or comparatively free, from ossification?

On examining any costal cartilage taken from bodies advanced in life, or, indeed, passed middle age, specks of calcification are to be seen in their centres and on their surfaces more or less commonly. In all such, the cartilage shows a degeneration which, in articular cartilages, gives rise to the well-known velvety degeneration. The cartilage cells appear multiplied in the capsules, and the hyaline substance in the inter-cellular intervals is broken up into fibres. This change is most marked at the centre of the cartilage and in the neighbourhood of the superficial degenerations, when they are present; but in all cases that I have examined the direction of the cleavage is the same—namely, at right angles to the axis, or as nearly so as the term may be applied in describing such structures. This cleavage may, for all I know to the contrary, exist before we can see it in the young hyaline cartilage, but its presence in the old is undoubted, and, while it renders the cartilage liable to fracture, it seems to determine also the direction of the fracture in most cases.

Next to be studied is the mode of union. No question seems to be more affected by prejudice than this, for all the older writers appear to struggle against the idea that the cartilage could do anything for itself. This error, as affecting other physiological capabilities of cartilage, I need not say, has been ably set aside by the researches of Redfern and subsequent authors. But still, while the modes of union I have described are admitted and figured by others, the tendency to attribute to the perichondrium alone the power of union appears to be the last resource. Rokitsansky says:—"The uniting medium is never found to be new cartilaginous tissue." True, if the union be completed, but I think it may be easily seen that new cartilaginous tissue is formed as the basis of the union, and that, as in bone, the permanent callus is formed from such cartilage.

The cases, Nos. III., V., and VI., best exhibit these facts, for in them only can a satisfactory and complete examination be made. In Case III. (Plate I., Fig. 1, A), along the line of junction of the large mass of osseous callus with the surface of the vertebral fragment, the tissue of the broken cartilage is seen arranged as in the neighbourhood of an ossifying centre, and is seen to pass into a

state of calcification, and, further on, of ossification, as in the callus of a bone fracture. The perichondrium may have participated, and no doubt did participate, in the development, but the surface of the cartilage has grown, become calcified and ossified, and the perichondrium is gone.

In the other district of this specimen, a new mass of cartilage is formed under the perichondrium, and appears to owe its origin to it and to the cartilage; the perichondrium has begun to calcify, and had the process gone on, no doubt it would have disappeared before the advancing ossification. In Cases V. and VI. the same sequence of events can be traced. In Case V. (Plate II., Fig. 1), where the ferrule is thinnest, it is formed only of perichondrium with calcareous deposits in its fibres. Where it is thickest, on the sides and behind, the layers next the fracture are as yet in the main calcified cartilage; and then on the surface true bone begins to appear, the ossification spreading from without inwards into the callus. This same sequence can be traced with ease in costal cartilages undergoing ossification elsewhere, the steps being first the multiplication of the cartilage cells in their capsules, with cleaving of the hyaline substance, calcification of the cells, and finally their removal and the substitution in their place of bone and of vascular medulla.

The woodcuts (Plate III., Figs. 1 and 2) represent the appearances seen in sections of the specimen described as Case V. They exhibit, as far as drawings made with a very low power of the microscope can, the successive layers of tissue seen in the callus on the opposite sides of the fracture. Fig. 1 represents a section through the pleural side of the ferrule. The layer of tissue marked 2 is the original cartilage close to the seat of fracture; 1, the perichondrium, calcified in part and thickened, as it is traced into the ferrule; 3, the deepest layer of the ferrule, composed of cartilage rendered nearly opaque by calcification. As this layer is traced to the free surface it is found to be ossified, and even open cancelli present themselves, two of which show the concentric arrangement of the bone tissue at their circumference; the dark spots here are true bone lacunæ.

Fig. 2 represents the opposite side of the fracture, that next the skin where the ferrule is almost wanting. The layer of tissue, No. 1, is a thickened layer of fibrous tissue continuous with the perichondrium; in its tissue a few scattered grains of earthy matter indicates the only attempt at the formation of hard

PLATE III.

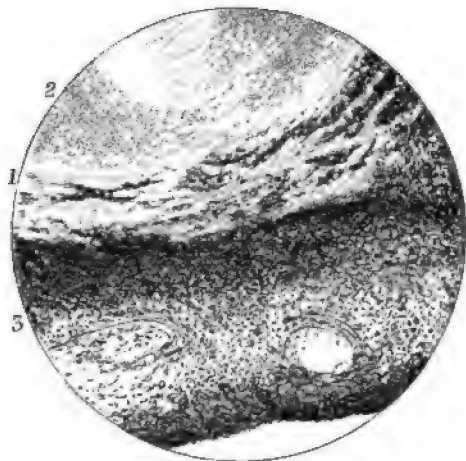


Fig. 1.

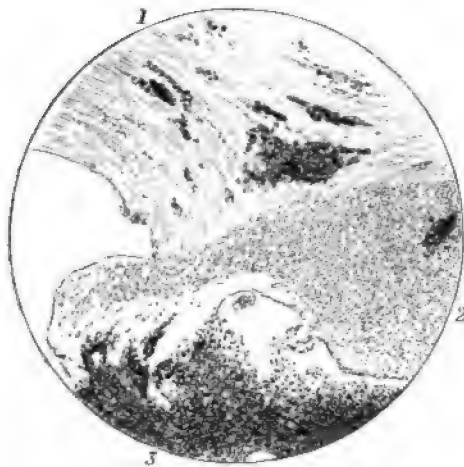


Fig. 2.

callus; next to this layer, No. 2 represents the original cartilage, to all appearance unchanged; and, beneath this layer, No. 3 the ossification of the axis of the cartilage, which is present only in this specimen.

In describing the mode of union of these injuries, even Gurlt, who figures a specimen similar to Case III., attributes the action to the perichondrium alone, and he does not appear to have been struck by the remarkable difference presented by the distribution of the callus on the pleural side of the fractures which he represents, and which I think constitutes a striking difference between these and bone fractures.

Even in the case of the ferrule, we see that it is reduced to almost nothing on the external surface, and that the mass of the callus is deposited behind and on the edges. Whatever be the explanation, the callus seems to avoid the cutaneous surface, and to accumulate at the pleural side of the fracture irrespective of the mode of displacement, for it is similarly placed in Cases III. and IV., where the fragments are in reversed positions. We see something of this kind in fractures of the clavicle where extensive buttresses occur underneath the bone, while the cutaneous surface is free, but the callus does not avoid the end of the fragment projecting towards the skin, as in these specimens, and in those figured by Gurlt.

We may, I think, draw the following conclusions from the study of this subject:—

1. That fractures of the costal cartilages may be arranged in three groups—the first containing recent fractures, which are consequences of grave injuries of the chest, and mere results of fractures of the sternum or ribs; the second, united fractures caused by limited direct violence; the third, fractures the result of muscular action.

2. That the degeneration of the cartilages which precedes their ossification—the cleavage of the hyaline substance—may be regarded not only as a cause predisposing to fracture, but also as a cause determining its direction, which, in the great majority of cases, is transverse.

3. That oblique fractures are possible, chiefly as secondary injuries.

4. That the callus in these fractures is developed as in bone, the broken cartilage participating in its development.

5. That the difference between the modes of union in bone and

cartilage fractures consists, in the case of overlapping fractures, in the more limited development of callus in the cartilage fractures, and, in all forms of fracture, in the slowness with which the process of union would appear to be completed.

ART. XI.—*Medical Report of the National Eye and Ear Infirmary, Dublin, for the year 1875.* By H. R. SWANZY, M.B., F.R.C.S.I.; and C. E. FITZGERALD, M.D., M.Ch., Surgeons to the Infirmary.

THE custom of publishing annual medical reports of their several clinics is very general among Continental ophthalmic surgeons. In these countries it does not prevail, unless in so far as those London general hospitals are concerned which publish "Reports," and which have special ophthalmic departments connected with them. Institutions of this kind are so little visited by the profession at large, that it seems right to render a periodical account of what is being done in them, so that some idea may be formed of the practice adopted. With this object the present Report is submitted.

As the National Eye and Ear Infirmary is probably unknown to many of our readers, some idea of its history may prove of interest to them.

The following is an extract from an entry made in November, 1827, in an old minute book in possession of the Hon. Secretary:—"The institution was established in the year 1814, under the patronage of the Earl of Whitworth, then Lord Lieutenant. Mr. (afterwards Sir Robert) Peel favoured the institution by becoming president, and many other eminent public and private characters warmly co-operated in promoting this object. Mr. Ryall, a gentleman who for many years held a medical appointment in the Royal Navy, was mainly instrumental in forming the institution. . . . On Surgeon Ryall's sudden departure for England the institution fell to the ground, it being held in a house rented by him, which, of course, was given up. Surgeon Morrison, having devoted much time and attention for many years to this branch of his profession, embraced the opportunity which these circumstances presented, and addressed a memorial to the Marquis of Wellesley, apprising his Excellency of Surgeon Ryall's departure, and requesting a continuance of his patronage of the institution." To this memorial a favourable reply was received, and, to the present,

the Lord Lieutenant for the time being is patron of the institution. "Shortly after Surgeon Ryall's departure, Surgeon Morrison notified to all persons seeking relief at the institution that it had been removed (*pro tempore*) to his house in Gloucester-street. . . . Several eminent professional characters feel much interest for its success, amongst whom are Dr. Grattan, the Surgeon-General, Mr. Carmichael, Mr. Kirby, whose countenance and co-operation cannot fail to impress society with the importance of the subject." In December, 1827, a committee of management was formed, among the members of which were Surgeons Carmichael and Kirby. In April, 1829, it was resolved, at a meeting of the governors and managing committee, to solicit the attendance of the Duke of Northumberland, Lord Lieutenant, at a charity sermon in aid of the institution. His Grace replied that he "had a particular objection to the way in which charity sermons were conducted," and appointed, in lieu of the proposed sermon, that a ball should be held, to which he would afford every countenance and support. In consequence, a ball took place in the Rotunda on the 1st of May following, which the Lord Lieutenant and the Duchess of Northumberland attended, and by which the Infirmary benefited to the amount of £600. Soon after this a house in Cuffe-street (at that time a fashionable locality) was secured for the purposes of the hospital. It seems to have flourished there, doing much good, until the year 1848, when, probably for want of necessary support, impossible to obtain in those times, it languished, although it did not altogether close its doors. On Surgeon Morrison's death, the late Dr. Hildige became surgeon to the institution, and it was on his lamented death that the present surgical staff was appointed. It was at once apparent that if the Infirmary was to be made of use to the public, better accommodation should be obtained for it than that in Cuffe-street, where the sanitary arrangements were simply intolerable. After a short time it was determined to move to the present house in Stephen's-green, which, for its size, answers the purpose much better. It threatens, however, before long to become too small, when it is hoped sufficient funds will be forthcoming to build on the present site, or to obtain larger premises in the immediate neighbourhood. The institution has the inestimable advantage of being managed by an active and enlightened lay committee, who are only anxious to second the efforts of the medical staff in introducing every improvement of which their funds will permit. The institution is, to a certain extent, self-

supporting, inasmuch as all persons admitted to the wards, who can afford to subscribe towards their maintenance, are expected to do so; and the extern patients obtain tickets at sixpence each from the attendant, which admit them to the dispensary for a week, but very poor people are not excluded. In future the dispensary will be held daily, the door remaining open from 10½ a.m. to 12 noon.

As we have said, the National Eye and Ear Infirmary was removed from Cuffe-street to 97, Stephen's-green, South, in May, 1872, and from that time is to be dated its renewed vigour. Indeed, although so long established, it must now, to all intents, be regarded as a new institution. Hence the numbers with which this Report has to deal are small, when compared with those of similar hospitals in this and other cities which, although younger, have been steadily and regularly conducted.

While a large material is something which every surgeon gladly commands, yet we cannot accept without some reserve the opinion that large numbers of patients is an unmitigated good. It is not by the hasty and superficial observation of a great number of cases that the medical man can hope to improve himself, or to advance his particular study, but rather by the careful analysis and notation of a few. It must be known to many of our readers that some of the most distinguished Continental observers in various departments of medicine—some of those men who have introduced the most brilliant reforms—number fewer patients in the course of a year in their clinics than may be seen within a quarter of the time in any of our large hospitals in this city. The very plentifulness of material makes us prodigal of it, and thus many valuable observations are lost. In the National Eye and Ear Infirmary we have endeavoured to keep an accurate register of the extern, as well as of the intern patients. Upon his first application, the name, age, calling, and residence of each patient, and the diagnosis of his disease, are registered in a book for the purpose. A sufficiently wide column is left for further notes of the case should it be a severe one, or one of special interest; and a record of the treatment employed and of its results is entered from day to day. We find that in the hurry of a busy morning this method is liable to imperfections, and, accordingly, a greatly-improved plan of registration and case-taking is being organised, which we hope to bring before our readers at a future time.

The Infirmary contains nine beds. These were occupied during the year by 106 different patients. The number of capital opera-

tions performed was also 106. The Eye and Ear Dispensary was held three times a week, the number of new cases which presented themselves being 653 (179 ear), and the number of visits paid being 4,733.

The number of *Cataract Extractions* is small, but this is mainly to be accounted for by the fact already mentioned—namely, that, prior to the present management, the material, owing to various causes, had fallen to an extremely low ebb. Since then, however, there has been a steady annual increase, which justifies the hope that, ere long, we shall be enabled to issue a Report of much greater interest and importance.

The method of operating was, in all cases, that of Von Graefe. In the performance of this operation importance was attached to the following points—(1) non-instillation of atropine prior to the operation; (2) the formation of a moderately-sized *conjunctival* flap; (3) careful reposition of the angles formed by the iridectomy in the sphincter pupillæ before proceeding to the opening of the capsule.

Wecker's forceps-scissors were employed for performing the iridectomy, and were found of great value, admitting, we think, of greater accuracy in this stage of the operation.

The total number of extractions was twenty-one.* Three of these operations were unsuccessful; but the present condition of the eyes is such as to allow good hope of useful vision being yet restored to them, by means of secondary operations. One case was a partial success, the patient being afterwards able to count fingers at 1', and in this case, too, the vision may be greatly improved by an iridotomy. The case (No. 2) was not a very favourable one for operation, as may be seen by reference to the accompanying Table. One of the three unsuccessful cases (No. 7) was that of a diabetic patient, with extensive posterior synechiæ. In one case (No. 11) the result is not noted, as the patient did not return after her discharge from hospital. Had it not been for the accident which occurred to the eye, the patient's vision would have been quite satisfactory, and even now we fully believe it is very good, judging from the condition of the eye when last seen.

* We regret that, in the lay Report just published, an error occurs in referring to the cataract extractions. It is there stated that there were seventeen successful and four unsuccessful cases. It should have been sixteen successful, one partially successful, and three losses.

Table of Cataract Extractions.

No.	Sex	Age	Nature of Cataract	Right or Left Eye	Date	Operation	Remarks	Result	Duration of Treatment
1	M.	65	Hard .	R.	1875 Jan. 7	Normal	—	27th May, 1875. $V = \frac{14}{0}$ (+3½) 3 at 6" (+2). Some months after (date not entered) counts fingers at 1'.	14 days 27 "
2	M.	40	Cretaceous .	R.	Feb. 11	Copious escape of vitreous	This was an unfavourable case, for the age of patient, the entire absence of any sign of cataract in the left eye, and the appearance of the cataract itself, tended to show that there was some complication. Notwithstanding the loss of vitreous, and a subsequent attack of iritis, the wound healed quickly, and the case is now admirably adapted for iridotomy.		
3	M.	70	Hard .	R.	Feb. 25	Normal	—	18th May, 1875. $V = \frac{14}{L}$ (+4). Reads small print (Welsh Testament) with ease (+2½).	14 "
4	M.	65	Fluid corticalis; hard nucleus	R.	March 6	Puncture too peripheral; point of knife caught in iris	From the puncture being somewhat too peripheral, the point of the knife caught in the iris. With a little difficulty it was extricated. Short conjunctival flap. Fluid corticalis escaped when capsule was opened. In attempting to deliver the nucleus in the usual way it became partially dislocated behind upper edge of wound. It was depressed towards the lower part of the anterior chamber with the cystotome, and then extracted with the spoon. Small escape of vitreous during this manœuvre, and later a considerable quantity, owing to the restlessness of the patient.	8th April, 1875. $V = \frac{14}{\infty}$ (+4). Reads small type, but never could read well, so that this test is imperfect.	11 "

5	M.	60	Hard; not quite ripe	R.	March 9	Spoon introduced to remove corneal mass	Patient was in an intoxicated condition when admitted the previous day. There was a considerable quantity of the cortical portion left behind, which it was found impossible to remove by the lid manoeuvre. Recourse was had to Critchett's and David's spoons, but still some of the corticalis had to be left. Suppuration of wound set in about 18 hours afterwards.	Vision = 0.	6 "
6	M.	56	Hard -	R.	April 3	Normal	Cystoid cicatrix. Same patient as No. 15.	8th Dec., 1875. $V = \frac{14}{6}$ (+4) $2\frac{1}{2}$ (+3) at 8".	14 "
7	M.	60	Hard -	R.	April 13	—	Diabetic patient. Extensive adhesion of iris to lens; owing to latter and sticky consistency of lenticular substance, large portions of the latter had to be left behind, although the spoon was employed to remove them. Iritis supervened.	Vision = 0.	18 "
8	F.	63	Hard -	R.	April 24	Normal	Same patient as No. 10.	19th May, 1875. $V = \frac{14}{XL}$ (+3 $\frac{1}{2}$). Welsh Testament with ease (+2).	26 "
9	M.	44	Hard -	L.	April 24	Normal	—	4th May 1875. $V = \frac{14}{XXX}$ (+4) 2 (+2 $\frac{1}{2}$) at 8".	20 "
10	F.	63	Hard -	L.	May 6	Normal	Same patient as No. 8.	19th May, 1875. $V = \frac{14}{L}$ (+3 $\frac{1}{2}$). Welsh Testament with ease (+2).	26 "

Table of Cataract Extractions—continued.

No.	Sex	Age	Nature of Cataract	Right or Left Eye	Date	Operation	Remarks	Result	Duration of Treatment
11	F.	50	Hard -	R.	May 13	Normal	Some days afterwards, when the wound had quite healed, the patient struck her eye against the edge of a table, and partially ruptured the wound. This set up a smart inflammatory attack, which, however, subsided under treatment.	Not noted.	14 days
12	F.	60	Fluid corticalis; hard nucleus	R.	June 8	Normal	There was no conjunctival flap at outer end of incision.	3rd July, 1875. $V = \frac{14}{LXX}$ (+4) 2 (+2) at 6".	15 "
13	F.	60	Soft corticalis; hard nucleus	L.	June 8	Spoon had to be introduced 3 times	The conjunctival portion of the incision was too small, so that the zonula was ruptured in attempting to deliver the lens, and the vitreous presented before the lens, making it necessary to deliver with the scoop. There was a large conjunctival flap. Wound adapted very fairly.	5th Aug., 1875. $V = \frac{14}{C}$ (+4) 2 (+24) at 7".	15 "
14	M.	68	Hard; hyper-mature	R.	June 10	Normal	—	25th June, 1875. $V = \frac{14}{CC}$ (+4) 2½ (+2) at 7".	19 "
15	M.	56	Hard -	L.	July 13	Normal	Same patient as No. 6.	9th Dec., 1875. $V = \frac{14}{LXX}$ (+3½) 2½ (+3) at 8".	21 "
16	F.	60	Corticalis fluid; nucleus large	R.	Aug. 24	Considerable loss of vitreous	Patient most unmanageable. Operation quite normal until the delivery of the lens, when a considerable escape of vitreous occurred. Wound suppurred. At patient's discharge the eye promised to be a favourable one for iridectomy.	Vision = 0.	6 "

17	F.	69	Fluid corticalis; hard nucleus	L.	Sept. 9	Small portion of iris adherent in inner angle of wound	—	No date. $V = \frac{14}{C} (+3\frac{1}{2})$. Welsh Testament fluently (+24) at 7".	28 "
18	F.	68	Hard -	R.	Sept. 16	Normal	—	Date not noted. $V = \frac{14}{C}$ (+2). Welsh Testament (+2) at 6".	21 "
19	F.	7	Hard; senile -	L.	Oct. 23	Normal	Centre of section in cornea, with nar- rower knife than usual, on account of very shallow anterior chamber. Necessarily no conjunctival flap.	9th Nov., 1875. $V = \frac{14}{C}$ (+44) 24 (+8) at 7". Was formerly near- sighted. Staphyloma posticum.	11 "
20	F.	65	Hard; hyper- mature	L.	Nov. 16	Normal	Considerable opacity of capsule. Same patient as No. 21.	23rd Dec., 1875. $V = \frac{14}{C}$ (+44). Cannot read, but could sew with (+3).	41 "
21	F.	65	Hard -	R.	Nov. 25	Normal	Same patient as No. 21.	23rd Dec., '75. $V = \frac{14}{LXX}$ (+44). Cannot read, but could sew with (+3).	32 "

Discussion of Cataract.

1	M.	1	Congenital	R.	Feb. 11	—	Operation had to be repeated three times.	Successful. Too young to test V.	—
2	M.	1	Congenital	L.	July 10	—	—	Successful. Too young to test V.	—

In presenting the foregoing Table we do not propose to draw any conclusions from it with regard to the value of the mode of operation adopted—the number is too small for such purpose; but we think it to be of the utmost importance that all cases of operation for cataract should be carefully registered, together with the acuteness of vision obtained, the latter being tested at as long an interval after the operation as possible. We lay considerable stress on this point, especially as the question of statistics of cataract operations has been discussed in a new light by Dr. Hirschberg, of Berlin, in a suggestive paper, published in the last number of the *Archives of Ophthalmology and Otology*.*

Dr. Hirschberg first of all draws attention to the very unsettled state of the question as to what is the best operation for cataract, and he lays it down as indisputable, that the only true basis for judgment in this matter is the *numerical method*. He considers that it is the *computation of probabilities* which furnishes us with the necessary laws for establishing the general value which may be rightly claimed for a concrete series of numbers, and he looks upon it as a matter of regret that to this, “which might be called the mathematical formula for common sense, little attention has been paid in professional statistics at large, as well as in our specialty. Yet,” he goes on to say, “it teaches us beyond refutation that most of the different series of numbers published, because too short, do not establish with sufficient—i. e., practically conclusive—probability what they are intended to prove.”

This is not the place to follow the author in his exposition of the method he advocates, which, by-the-by, pre-supposes an acquaintance with the doctrine of chances we are inclined to think is not very general. But there is one statement made by Dr. Hirschberg which seems open to objection. He says:—“The numbers of operations in general are too small, representing fortuitous rather than real values of the quantities to be determined.” And in a note to this he adds:—“It should not be attempted, as Steffan has done in his well-known paper, to make a long series by the addition of several short ones. The number of losses depends upon (1) the method, (2) the skill of the operator, (3) the individual pre-disposition of the eye to be operated upon, and (4) various external circumstances. Two series, obtained by the same method,

* The Statistics of the Operations for Cataract. By Dr. J. Hirschberg, of Berlin. *Archives of Ophthalmology and Otology*. Vol. IV., Nos. 3 and 4, p. 452. New York. 1875.

but under different external conditions, should not be blended together, except in case that both series are very long, so that the accidental variations, in regard to points 3 and 4, find compensation, and that there is justifiable reason to assume that the skill and precision of both operators are equal."

Now we maintain it is quite justifiable to combine a large number of short series from various sources; for then, practically, the very points alluded to are eliminated or find compensation, and, to our minds, a truer judgment is arrived at by this means than the more exclusive examples adduced by Dr. Hirschberg would lead us to expect by his method, for these examples appear to give too great preponderance in favour of skill. It is in no spirit of hostile criticism we have dwelt on this subject, but rather with the object of enforcing what we have already insisted on, namely, the importance of registering *all* cases of cataract operations. We cordially endorse the author's statement, that "not one of the latest methods has as yet furnished a sufficient number of facts so as to warrant a preference to Von Graefe's method."

Iridectomy was performed for optical purposes nine times. In one instance the result was spoiled by the formation of cataract. Two of these operations were rendered necessary by central leucoma of the cornea, which latter, in each case, was afterwards tattooed with Indian ink to obviate the deformity. In one case the leucoma covered not only the pupil but also a portion of the brown iris, and this part was tattooed with burnt sienna.

Iridectomy for antiphlogistic purposes was performed eight times, for *glaucoma* four times, and for *secondary glaucoma* three times.

Wecker's Iridotomy was performed three times—once upon one eye, and twice upon another. In the first case the result was most brilliant. The patient had had a cataract extracted elsewhere some years previously. Subsequent suppuration of the wound had evidently set in, with the result of drawing the iris towards the latter and producing occlusion of the pupil. Fingers could be counted close to the eye only. The operation produced a beautifully-clear pupil, the vision was raised to $\frac{16}{125}$ (with + 4), and small type (No. 5 $\frac{1}{2}$ Snellen) could be read fluently at 7" with + 2. The second case (similar in its nature) was not so satisfactory. Notwithstanding two attempts a clear pupil could not be obtained. This was due to a very thick retro-iritic membrane, which did not lie in direct contact with the iris, but at least a line further back. The

immediate result of the operation each time was a clear pupil; yet, although the aperture in the iris remained open, that in the retro-iritic membrane closed again next day, when the aqueous humour had become secreted and the vitreous returned into its chamber. In this dilemma *Krüger's method* was had recourse to, but, owing to the excessively clumsy make of the instrument,* the proceeding could not be carried out. With some modification the latter method would seem to promise good results in cases similar to the above.

There was one operation for *Serous Cyst of the Iris*. As the case is still under observation we shall not enter into its details, but shall merely mention that the cyst was purely idiopathic in its origin, and that it was one of the largest, if not the very largest, as yet observed.

There were twelve operations for *Convergent Strabismus*, the results of which were all satisfactory. There seems in this country to be a prejudice against the squint operation, for which it is difficult to account. We need say nothing about the unsightly appearance produced by squint, for everyone is familiar with it; but it may not be present to the minds of our brethren who have had no reason to think about the matter that a squint precludes the possibility of binocular vision with all its advantages. That the squinting eye ultimately becomes very imperfect in its vision is also a fact not sufficiently generally known. In the act of vision the squinting eye is not used, for if it were double sight would result. Hence, for want of use, the optic nerve and retina of the deviating eye gradually degenerate and actually undergo atrophy, as do other parts of the body when not used. For these reasons we think strabismus should be always corrected. The operation is unattended by the slightest danger, and its results are satisfactory, from an æsthetic point of view, in more than ninety per cent. of the cases, while, so far as its effect in restoring the impaired vision is concerned, that depends on the stage to which the impairment has advanced. We have made the foregoing remarks because the public must be educated in these matters by the profession, and because we are deeply impressed by the importance of the subject.

Entropion of the upper lid was operated for twenty times, after three different methods—viz., ten by the method of Snellen, five by the Arlt-Jaesche method, and five according to Berlin's method. As the latter is comparatively new and not yet in general use, a

* It was obtained from the original maker of Krüger's instrument in Germany.

description of it may interest our readers. A horn spatula having been inserted under the lid by the assistant so as to protect the eyeball, or, still better, a Knapp's clamp having been applied, the surgeon makes an incision extending the entire length of the lid, about three millimetres removed from its margin. This incision is to divide at once the skin, muscle, cartilage, and conjunctiva. The skin and muscle along the upper edge of the wound is now to be pushed up with the handle of the knife or dissected up, so as to expose the cartilage. The cut edge of the latter is then seized at its centre in a suitable forceps, and with a scalpel or scissors a narrow oval piece, extending the whole length of the cartilage, and from two to three millimetres broad at its broadest part, is excised. A portion of conjunctiva, corresponding in size to the bit of cartilage removed, must necessarily be taken away with it. A portion of skin along the upper margin of the wound may then be excised if it be feared that the effect will be insufficient; and, finally, the lips of the wound may be closed with three or four points of suture, or a simple bandage may be applied without any sutures. In the five cases above mentioned no skin flap was removed, but sutures were always employed. Arlt and others have made the objection to this operation, that it is liable to produce lagophthalmos and imperfect lubrication of the margin of the eyelid, in consequence of the injury and partial destruction of the Meibomian glands. The latter objection would equally apply to the methods of Snellen and Streatfield, and yet in practice no disturbances which could be referred to an imperfect lubrication of the margin of the lid has been observed in any of these three modes of operating. With regard to the lagophthalmos, it also did not occur in any of our cases, nor in the hands of others who have had a large experience of the proceeding. The method seems to us admirably suited for extreme cases of entropion with distortion of the cartilage. It is simple, rapidly performed, and leaves no disfigurement. Our acquaintance with the operation is as yet too slight to enable us to form an opinion as to the frequency of recurrence. The author himself admits that recurrences do take place, but he thinks it will be possible, after a longer experience, to lay down rules for the proper dosing of the effect which will prevent this.*

Illuquatio was performed in three cases. It is a very ancient

* R. Berlin. Bemerkungen zu seinem Operations-Verfahren bei Entropion. Sitzungsbericht der Ophthalm. Gesellsch. 1874.

proceeding, dating from the time of Celsus, for the correction of distichiasis, where only a few cilia are growing awry. Of late it has been revived by Snellen of Utrecht, and Argyll Robertson of Edinburgh. It is performed in the following way:—A very fine curved needle is threaded with a double silken suture or hair; the needle is seized in a holder, and its point inserted close to the place at which the offending cilia emerge from the lid; it is pushed about one or one and a half millimetres deep, and then turned abruptly round, so as to bring it out in the line of the proper cilia; the needle and two ends of the suture are pulled through, but the loop is still left below; in this loop the eyelash is ensnared by aid of a fine forceps; the loop is then drawn through, and with it the eyelash. If the hair does not fall out too soon afterwards, a permanent improvement in the position of its follicle may be produced, so that a normal position is secured for successive cilia. The worst which may occur is that the very simple proceeding will have to be repeated. Destruction of the hair follicles by cauterisation or extirpation gives rise, as a rule, to a small cicatrix, by which other previously normally growing hairs become turned in. The two points to be attended to in performing *illaqueatio*, as it seems to us, are to insert the needle close to the hair, and to make the channel it traverses short. If both these particulars are not adhered to, the hair, owing to its resiliency, will next day be found in its old position.

It may here be mentioned, that in no case of entropion or distichiasis has the proceeding so well known under the name of "scalping" ever been employed in the Infirmary. When we have methods in such abundance for restoring the eyelashes to their normal position, it cannot be good practice to rob the eye of its natural protection. At the very utmost, "scalping" is applicable to cases of simple distichiasis only, but it cannot be too strongly condemned if performed for entropion. In the latter condition the operation, no doubt, produces an immediate result which pleases the patient, but this depends merely on the removal of the hairs which were rubbing against his cornea; the entropion has not been relieved. As soon as the margin of the lid is completely healed, the hard cicatrix is in contact with the cornea, and the patient's condition is little, if at all, better than before.

Intraocular and Orbital Tumours.—Two tumours, one orbital and the other intraocular and orbital, were removed during the year. The latter of these was a good example of melano-sarcoma.

The patient, a woman, aged forty, who had evidently seen better days, but was now leading a dissipated life, was admitted into the Infirmary in April. She stated that about two years before, the right eye became inflamed, which she attributed to a cold; the inflammation increased and she soon noticed something growing from the eye. A constant and offensive discharge kept continually oozing from it, and it sometimes bled very freely. She occasionally experienced some severe darts or stings of pain in and about the eye.

On examination a large tumour was found occupying the orbit and involving the globe. From the latter a black mass protruded forwards between the eyelids. Hard nodules could be felt in the region of the parotid and submaxillary glands, and this circumstance, at first sight, made it doubtful whether operative interference was justifiable. The patient was seen by Mr. Colles (Consulting Surgeon to the Infirmary), who considered the removal of the tumour imperative; and accordingly the operation was undertaken on the 22nd of April, Dr. V. Brown and Mr. John A. Irwin, who were attending the course of instruction at the Infirmary, kindly rendering assistance. It was found impossible to remove the tumour *en masse*, as all the tissues of the orbit were deeply infiltrated with the morbid growth. Besides the hæmorrhage was very profuse, and at one period assumed most alarming proportions, the blood literally pouring from the orbit; and as every fresh piece of the tumour was removed, the blood welled up with such rapidity as completely to fill the cavity at once. However, by the vigorous application of cold and pressure, the hæmorrhage was kept tolerably in check, and as much as possible of the morbid growth removed. The whole cavity of the orbit was then freely touched over with a solution of chloride of zinc, and, finally, compresses of lint and a firm bandage were applied. The patient made a good recovery and expressed herself as greatly relieved. Up to the present there has been no sign of recurrence of the growth in the orbit. Lately a very suspicious looking swelling has appeared in the region of the parotid and submaxillary glands, and there can be little doubt that the disease has established a new focus in this quarter. On the whole, however, the operation cannot but be regarded as satisfactory, for had it not been performed, the disease would undoubtedly have proved quickly fatal.

The case of orbital tumour was one of considerable interest. A young man, aged nineteen, a shop assistant, presented himself at

the Infirmary on the 10th of July. He stated that for some years past the left eye had been pushed upwards by a swelling which occupied the inner and lower portion of the orbit. The sight was not much affected, the acuteness of vision, however, being not quite equal to that of the other eye. There was no history of an injury. The tumour was elastic and gave the sense of fluctuation so strongly that it was determined to make an exploratory incision. This immediately gave exit to a thick light orange coloured fluid, which was intensely oily in character. As much as possible was squeezed out and the globe quickly returned to its normal position. The incision soon healed, and there has been no recurrence of the tumour.

A microscopic examination showed the fluid to be composed almost entirely of fat cells. When treated with ether the fluid dissolved, leaving hardly any residuum.

Besides the above operations the following were performed:—Graefe's entropion operation for the lower lid, 2; Extirpation of false cilia, 3; Peritomy, 1; Enucleation of shrunken globe for pain on pressure, 4; Enucleation of globe for marginal ring ulcer of the cornea, 1; Tumour of the lower lid, removed, 1; Tumour of the conjunctiva, removed, 1.

The following are a few of the interesting cases observed:—

Case of Sudden Amaurosis, associated with Chorea. This case has already been published, but as it was in a special journal,* and as some new points of interest in it have arisen since then, we have no hesitation in reproducing it here.

Lizzie B., aged ten, was brought to the Infirmary on 1st May last, complaining of the sight of her left eye. On 15th April the child had been out all day watching a public funeral, and came home in the evening suffering from frontal headache. Next morning, while washing her face, she discovered that the left eye was blind. The parents did not seek medical advice for a fortnight, believing that the affection would wear off. The headache continued for nine days, and has not returned since then.

Upon making a functional examination it is found that vision is absolutely wanting in the eye, bright light not being distinguished from darkness. The pupil, which is dilated, reacts sluggishly when the light falls into the eye.

The ophthalmoscope reveals those appearances which, until lately,

* Royal London Ophthalmic Hospital Reports. September, 1875.

were generally accepted as characteristic of embolism of the central artery of the retina. The artery, in all its branches, is pale and diminished in calibre, but not quite bloodless. The vein is also somewhat smaller than the normal. There is some haziness of the retina around the optic disc, especially above and to the outside, but this haziness does not advance quite up to the margin of the disc. At the macula lutea there is the well-known crimson spot, surrounded by a broad zone of retinal cloudiness.

The child is affected with chorea, which is more marked in the left leg and arm than elsewhere, and the mother says that this made its appearance almost simultaneously with the blindness. No cardiac disease can be found. The patient has never had any illness beyond mild attacks of whooping-cough and measles.

10th May, 1875.—A bright light is distinguished from a dark shadow.

14th May.—Fingers are counted centrally at a distance of three inches. The haziness around the disc is now quite gone, and that near the macula lutea very much lessened. The crimson spot has become more diffused and less intense in colour. The chorea is also better.

20th May.—Fingers counted at five inches. The lower third of the field of vision is still wanting. The optic disc is becoming white. The crimson spot continues, and also the nebula surrounding it. In general the appearance of the vessels remains similar to that observed at the first examination, but there is one arterial branch which passes downwards and inwards, which seems to be completely obliterated, and presents the appearance of a thin white thread.

1st June.—Since the last visit the obliterated branch has recovered so far as to differ in no way from its fellows. Very slight chorea still remains.

14th July.—The functions continue unaltered. The optic disc is whiter. The crimson spot is fainter, as likewise the surrounding nebula. The chorea has quite disappeared, the patient's mother having seen nothing of it for a fortnight.

The treatment consisted in bromide and iodide of potassium.

The precise nature of the foregoing case is not very certain. It was, no doubt, either embolism of the central retina or hæmorrhage of the optic nerve. Since the appearance of Dr. Hugo Magnus' work (*Die Sehnerven-Blutungen*. Leipzig, 1874) we are obliged to distinguish between these two very different conditions, which

produce such similar ophthalmoscopic appearances. One of the most important points for the diagnosis (the period at which the infiltration of the retina appears) can only be observed within the first few days after the occurrence of the blindness, and the patient in this instance did not come under notice for a fortnight. In cases of hæmorrhage of the optic nerve, the retinal veins are distended, according to Magnus, while in embolism they are contracted, as in this case. The complete, but temporary, blocking of one branch, as noted on 20th May, would also speak for embolism. The recovery of partial sight in a large portion of the field of vision, one-third of the field still remaining defective, is a circumstance which I am unable to explain. There is now no branch of the artery less filled with blood than another, nor where one branch did seem completely blocked did the defect in the field correspond to the portion of retina supplied by this vessel.

One of the points of greatest interest in this case is the coincidence of the chorea. The reader is acquainted with Dr. Hughlings Jackson's hypothesis, that the proximate cause of chorea is embolism of the capillary vessels in the region of the corpus striatum. This case may, perhaps, go to support that theory.

Since the publication of the above the following notes have been made:—

18th October.—Matters continued in the same state until the 15th of this month, on the evening of which day the little patient went out to attend a magic lantern exhibition. While sitting quietly looking on she was attacked with complete paralysis of the portio dura of the right side. Hearing normal.

23rd October.—Yesterday evening, without any assignable cause, she was attacked with violent and persistent vomiting, which continued all night and this morning. Since the last visit she has been tolerably well, with the exception of slight headache.

25th October.—Admitted to the Adelaide Hospital, under Dr. J. Little's care. No vomiting; tongue somewhat foul; pulse healthy; no headache; facial paralysis continues; bromide of potassium internally.

31st October.—Continuing well, is discharged from hospital.

6th November.—Continues well, with the exception of the vision of her left eye, the facial paralysis, and one or two slight headaches. Dr. J. Little inclines to the opinion that the paralysis of the face is due to a central lesion, as he finds that the sense of taste on the right half of the tongue is somewhat impaired.

Fig. 1



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Fig. 2.

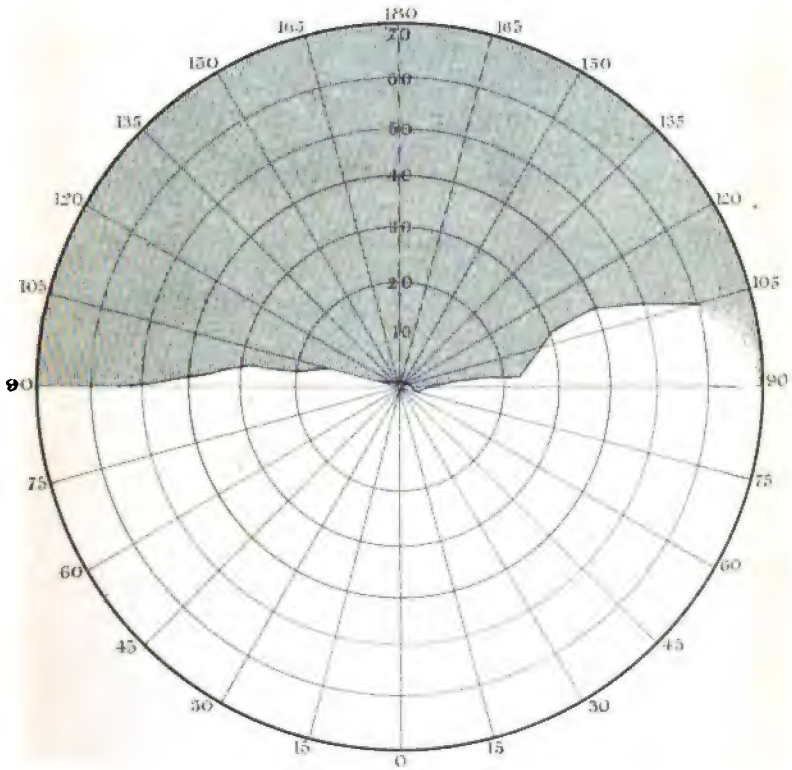


Chart of Field of Vision

18th November.—The day before yesterday the patient had a bad headache, but no sickness of stomach. She is fond of lying down after dinner, as she then feels wearied.

29th January, 1876.—The patient's mother says the child has been growing stronger every day. The appetite is improving. She very occasionally complains of a slight frontal headache. The facial paralysis seems better, as the angle of the mouth droops less, and the eyelids can be approximated closer.

Case of Embolism of a Branch of the Central Artery of the Retina.—James C., aged twenty-three, merchant's clerk, applied on 13th May, 1875. He states that one day, about three years ago, his right eye suddenly went quite blind. This blindness lasted for half an hour, and then the eye recovered partial vision. It has remained in the same condition since, having altered neither for better nor worse.

Fingers can now be counted with the affected eye at a distance of 2' somewhat below the centre of the field of vision. Examination with Carter's perimeter displays a complete defect in the field, as shown in the accompanying chart (Fig. 2).

The ophthalmoscope shows that a large branch of the central artery of the retina, passing directly downwards from the optic disc, is bloodless, looking like a thin white thread. The lower half of the optic disc is blanched. Fig. 1 illustrates the appearances seen. It is after a drawing taken from the case.

The left eye is perfectly healthy.

The only other ailment of which the patient complains is occasional neuralgia in the right side of the face. He has never had any severe illness, especially never acute rheumatism. The heart is healthy.

There can be no doubt but that, in this case, in the first instance, the central artery itself became blocked by an embolus, which soon after was carried on into the branch in question. The case is parallel to five others hitherto published—viz., three by Knapp,^a one by Barkan,^b and one by Mauthner.^c

Atrophy of the Optic Nerve from Trauma.—Edward L., aged thirty, coachman, presented himself on 15th July, 1875. He had been thrown off his master's outside car six weeks previously, and

^a Archives of Ophthal. and Otol., III. Part 1.

^b Archives of Ophthal. and Otol., III. Part 1.

^c Allg. Wiener Med. Zeitg., 1873, p. 6.

sustained an injury extending from the outer end of the left eyebrow directly upwards for an inch and a half. The cicatrix of this wound was still apparent. There was at the time great effusion of blood into the cellular tissue of the eyelids and neighbouring parts, so that he could not open the eye. At length, when the swelling subsided, he found that the eye, which had previously been healthy, had become quite blind. He had now not even power of perception of light with it. The ophthalmoscope showed complete white atrophy of the optic nerve, the arteries being very attenuated.

There can be little doubt but that the nerve must have suffered a direct injury—probably, either by laceration against the edge of the optic foramen, from the concussion, or else by effusion of blood into the sheath of the nerve.

Case of Ciliary Neurosis, with Amblyopia.—The precise nature of this case remains unknown to us. If any of our readers should have met with a similar one, and have been able to form any idea as to its nature, we should be happy to learn of it.

Kate B., aged twenty-seven, cook, a healthy intelligent-looking girl, came to the Infirmary on 20th July, 1875, complaining of the sight of her left eye. She said she had seen well with it until the 11th instant, when, while washing her face, she perceived that it was painful on pressure. Soon afterwards motion of the eyeball began to give pain. On the 15th the sight first became dim "on and off," gradually getting worse, until the 18th, when she could no longer distinguish print.

Status præsens.—Externally the eye seems perfectly healthy. The pupil reacts well to light. There is excessive pain upon pressure along the upper margin of the cornea, but she says this pain is less acute to-day than it has been. Motion of the eyeball in any direction gives pain in the globe. In April last she suffered from "weakness" and headaches, but has been well since. Her menstrual periods are regular, and the discharge healthy. The eye is emmetropic. $V = \frac{14}{\infty}$. Reads short words, No. 6½ (Snellen), at six inches. Examination after the ordinary method, with the black board, showed the field of vision to be considerably contracted. A perimetric examination was not made.

The ophthalmoscope displays a small staphyloma below and to the inside of the disc, with considerable pigmentary alteration in the neighbourhood. These changes are evidently of old standing.

The artificial leech was applied on the corresponding temple; she

was directed to use a warm stupe to the eye every third hour, and to protect it from cold and light. 5 grs. of iodide of potassium three times a day were prescribed.

24th July.—Eyeball less painful on pressure. Vision unaltered.

27th July.—Vision improved. $V = \frac{14}{24}$. No. 2½ read at seven inches. Pain on pressure quite gone. Slight painful sensation on looking downwards. Motion of eyeball in other directions painless.

29th July.— $V = \frac{14}{24}$. No. 1½ at seven inches with some difficulty. Very slight pain on looking downwards.

4th August.— $V = \frac{14}{24}$. No. 1½ at seven inches.

12th August.— $V = \frac{14}{24}$.

21st August.—Vision normal. All symptoms disappeared.

EAR DISEASES.

With regard to this department, it is not our intention to enter into any detailed account in the present Report. We shall merely refer to one or two points of practical interest.

During the year Weber-Liel's (of Berlin) method of *Intra-Tubal Electricity* has been employed in two cases with satisfactory results. So far as we have learned, this is the first institution in the kingdom in which this most ingenious mode of treatment has been adopted. It is not indicated in many of the cases which come under observation in hospitals; hence the small number in which it was tried. The disease for which Weber-Liel recommends it is that known by the name of simple chronic catarrh of the middle ear. The conviction has, however, of late been gaining ground, that the affection in question has but little in common with what we understand by the word catarrh, and yet a better name for it, or a satisfactory explanation of the true nature of the disease, has been wanting. The treatment hitherto in general use has been framed upon the catarrhal theory, and all who have had any experience will know how unsatisfactory it is. It is of the utmost importance that some means of relieving or arresting the progress of this disease should be found, as it is probably the most common cause of deafness; indeed, the title of Weber-Liel's book on the subject is—"On the Nature and Curability of the most common form of Progressive Deafness" (*Ueber das Wesen und Heilbarkeit der häufigsten Form progressiver Schwerhörigkeit*: Berlin, 1873). According to his theory, the starting-point of the disease is a

debility of the musculature of the Eustachian tube. Some catarrh of the middle ear may supervene at a later period, but is not an intrinsic part of the affection. He deduces his theory from his original anatomical, physiological, and pathological investigations. The treatment he proposes is the direct application of galvanism to the Eustachian tube. This is accomplished as follows:—The apparatus used in the Infirmary is a small galvanic machine, with a single bichromate of potash cell. A commutator is connected with it for the purpose of reversing the current. A Eustachian catheter is first introduced, *lege artem*, into the tube about to be galvanised. Through this catheter one electrode, in the shape of an elastic bougie containing a silver wire, is passed until it projects one or two lines into the tube. The other electrode is a conveniently-shaped brass rod mounted in a wooden handle. This latter is placed immediately below or behind the ear, or on the cervical vertebræ. The current should be frequently turned during the sitting, and the latter should be continued for from three to fifteen minutes, and be repeated two or three times a week. The treatment requires to be persisted in for from three to six months. In order that the treatment may be of benefit it should be employed in the early stages of the disease, before the tinnitus becomes very loud and continuous, and the hearing greatly impaired, and before secondary changes in the middle ear come on. In old chronic cases intra-tubal electricity is just as impotent as all other kinds of treatment. At some future time we hope to bring this subject more fully before our readers.

Tenotomy of the Tensor Tympani, after Weber's method, was attempted in one case. There was some slight improvement in the hearing for a short time afterwards, but this was probably due to the perforation made in the thickened membrane, rather than to the tenotomy of which the performance remains hypothetical. The operation is much more difficult than it would seem before it is undertaken. After a lengthened course of practice upon the cadaver the proceeding may be put in practice with better success.

The chief indication for the operation is found in a contraction of the tendon, giving rise to deafness, tinnitus, and vertigo, from labyrinthine pressure. Weber's results have been most satisfactory in a large percentage of the great number of cases he has operated on.

ART. XII.—*Two Cases illustrating the advantages of the Antiseptic Treatment of Wounds.* By JOHN K. BARTON, M.D., F.R.C.S.I.; Surgeon to the Adelaide Hospital, &c.

AT the present time, when antiseptic surgery may be said to be on its trial, the following cases will be read with interest. The favourable result in both cases was, it appears to me, due, in a great degree, to the antiseptic method of dressing employed. Every detail, as recommended by Professor Lister, was attended to; and without this no fair trial of this method of treatment is made. I may say here that attention to these details appears much more troublesome in description than they are in practice, and that the daily dressing, under the spray and with the gauze, becomes, after a time, when the surgeon and his assistants have become familiar with it, as quick, and may be accomplished with as little trouble, as any other dressing.

CASE I.—*Amputation at Knee (Cardens).*

J. M'C., twenty-four years of age, was admitted to the Adelaide Hospital upon the 5th of October, 1875, for caries of the bones of the right foot, and for disease of the knee of the same side.

History.—In February, 1873, the outside of the right heel was bruised by walking in a boot which hurt him. An abscess formed, and in the following April a second; both kept discharging all the summer. In October he became a patient in Sir P. Dun's Hospital, and in November Mr. Butcher removed a portion of the os calcis. He left hospital in about six weeks; the wound seems never to have quite healed. He returned to the country, but was unable to rest his weight on the foot. In April, 1875, he, for the first time, felt a pain in the knee of the same side; the knee became the seat of pain and uneasiness. He returned to town, and, as already stated, was admitted into the Adelaide Hospital in October last.

State upon Admission.—The patient is a strumous-looking young man, with red hair and a high complexion, but not very thin. Upon the outside of the right heel there is a deep unhealed wound, through which the probe passes readily down on carious bone, and can be made to go quite through to a sinus which exists in the inner side near the internal malleolus; the heel is the seat of constant pain, and cannot, for even a moment, bear the weight of the body upon it.

Upon the outside of the knee-joint there is an abscess about the size of a large orange, but flattened; the joint itself is pretty free, flexion and extension being performed without uneasiness; the joint can bear pressure anteriorly and on the inside without uneasiness, but upon the outside pressure gives sharp pain; but the weight of the body can be supported by the knees. A careful examination of the chest failed to detect any physical signs of tubercular disease; the urine is healthy; sleep at night is broken, and the appetite uncertain.

The question to be decided here was a difficult one; no doubt the patient was suffering from the presence of the diseased bones of the foot, and it was equally clear that amputation was the only means left to free him from this disease, but amputation of the foot would leave behind disease of the knee, which had already produced abscess; and to include this disease would involve amputation of the thigh, which, considering his general health, seemed full of danger. The course I pursued was:—In the first place I sent him to the Convalescent Home, at Stillorgan, for some weeks, by which I hoped to improve his general health, while the abscess on the outside of the knee was given time to mature. Upon his readmission, on the 21st of October, I found his appetite and strength improved, while the abscess had come to the surface, and also extended up the thigh; this was then at once freely opened under carbolic spray, well syringed out with carbolic lotion (1 to 30), and dressed with gauze. No inflammation followed, and in about a week the discharge consisted only of a small quantity of thin whey-like fluid. No carious bone could be felt through the opening, but it was evident, from the amount of thickening about the external condyle, that the bone in this situation was the seat of chronic osteitis. Under these circumstances I determined upon amputation above the knee, the objections to which were, that the sac of the abscess extended far up the outside of the thigh, and that the irritable constitution of the patient rendered the operation more than usually hazardous. Upon the morning of the 15th of December the operation was performed. The patient having been placed under the influence of ether, a long anterior flap was cut from the tissues in front of the knee, extending from above the condyles of the femur to the tubercle of the tibia; from this flap, when raised, the patella was removed; the tissues behind were divided by a straight incision; the bone was sawn immediately above the condyles, it was found to be so soft and vascular that it

was thought prudent to take off a little more of it, so the section was a little higher than I originally intended. The parts divided were very vascular, and upon the outside particularly were much infiltrated with a brawny lymph; the bleeding vessels were secured by torsion, except the femoral, which was compressed by Mr. Richardson's "presse artère;" the vein continued to bleed so copiously that another "presse" was placed on it.

The means taken to antisepticise this wound was as follows:—The limb having been shaved the day before the operation, the skin was repeatedly washed with carbolic lotion; the instruments to be used were laid in the lotion for at least half an hour; a copious spray was kept up during the operation; the wound was freely sponged with a solution of chloride of zinc (gr. xx to 3i); the flap was held in its place by stitches of carbolised gut; a drainage tube was placed through the wound, while the whole was enveloped in eight layers of gauze, and secured by a gauze bandage, over which was an ordinary roller. The patient, when placed in bed, got a hypodermic injection of a quarter of a grain of morphia, and passed a quiet time until next day.

16th.—As the gauze was, at its lowest part, soaked through with bloody serum, the stump was dressed under spray, but little inconvenience was felt by the patient; a free discharge of bloody serous fluid came from the wound. The dressing required to be repeated every day for a week; the tube was removed on the third day—the two "presse artères" not until the fifth day. After the end of the first week the dressing was not required oftener than every third or fourth day; and before the end of the third week all dressing, save a piece of lint smeared with carbolic cream, was unnecessary, as the stump was very nearly quite healed. Upon only one occasion, about ten days after the amputation, was there any purulent fluid seen at the dressings, and then but a teaspoonful of light-coloured pus—neither before nor after this was there any pus whilst the antiseptic dressings were employed; when these were laid aside, at once the unhealed part of the wound began to secrete pus abundantly. I have seldom seen a stump go on better, or heal up with healthier action, than this, while, from the irritable constitution of the patient, and the condition of the limb before amputation, there was good reason to expect a very different and less healthy action.

It appears to me to admit of no doubt that the antiseptic treatment effected this desirable result.

CASE II.—*Removal of Lower Knee-joint Cartilage.*

M. F., twenty-two years of age, a blacksmith, was admitted to the Adelaide Hospital upon 27th of November, 1875, suffering from the presence of a loose cartilage in the right knee-joint, which rendered him lame, and unable to follow his trade.

History.—Five years ago, the patient, being then a footman in a gentleman's house in Dublin, suffered from an attack of acute inflammation in the left knee. This seems to have been synovitis. He states that he was confined to bed on account of it for six weeks, during which time he was unable "to lay the foot to the ground." When sufficiently recovered he went to the country, and gradually recovered the use of the joint. He felt no pain or weakness in it until about the middle of last October, when going downstairs, carrying a bucket of water, he felt the knee suddenly become stiff, but experienced no great pain. He sat down, and began to move his knee to "supple it," when he felt a "kernel" slip out from between the bones. When he first perceived it, it was on the inner side of the patella; in the course of a few minutes it slipped up along the side of the patella, and passed into the *cul-de-sac*, under the quadriceps extensor tendon. When he walked he felt the body slipping from one side to the other.

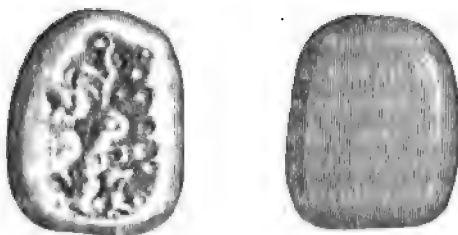
When admitted to hospital the loose body was easily pressed to the outside of the rectus tendon, and down to the outside of the joint, from which it readily slipped back under the condyles. It felt flat, about the size of the last joint of the middle finger, but not so thick.

A few days after his admission I proceeded to attempt the removal of the loose cartilage by Symes' or the subcutaneous method. Having well isolated the body to the outside of the joint, I introduced a tenotomy knife from above obliquely downwards, and cut on the cartilage, thus dividing the synovial sac; the body was then pressed outwards, to force it through the opening thus made and get it into the areolar tissue. I seemed to have succeeded, as after the withdrawal of the knife the loose body occupied a position nearer to the outside than before. A few drops of synovia escaped along the puncture. The loose body was kept in its new position by a pad and bandage; a splint was placed behind the joint, and the patient confined to bed. A day or two afterwards, the body occupying the same position, a blister was put on over it, according to Mr. Symes' advice, but all to no

purpose. In a few days, before the patient had left his bed, the wanderer was again back in the joint as free as before. This operation was repeated upon two subsequent occasions, with the same negative result.

Under these circumstances I determined to cut down upon the loose cartilage, and remove it at once from the joint, under the protecting power of the antiseptic spray and dressing.

Accordingly, upon the 5th of January, the patient having been prepared by the shaving of the skin over the joint and the free washing with carbolic lotion, I isolated the body at the outside of the joint, and, under a copious spray of carbolic acid, cut down upon and removed it. Two sutures of carbolised gut held the lips of the wound together; a piece of gutta-percha tissue lay over this; and then the joint was surrounded with eight layers of gauze, securely fastened round its edges with adhesive plaster and bandages. The limb was placed in M'Intyre's splint, and the patient removed to bed.



The cartilage was the largest I have ever seen of this kind. As seen in the accompanying woodcut, one surface was smooth and polished, while the other was puckered and indented, although superficially smoothed by friction. This seems to have been its surface of attachment, from which it was gradually loosened by the motion of the joint, and finally liberated, upon the occasion of the patient carrying a heavy weight downstairs, when the strain on the joint was very great. Under the microscope the body was seen to be made up of closely-packed cartilage cells. Neither Professor Bennett, who kindly examined the specimen, nor I, could see any earthy deposit in it.

The dressing was not removed until the third day, the patient during this time being quite free from pain, his pulse being quiet, and his temperature normal. Upon the third day the dressings were changed under carbolic spray; there was a little reddish serum

soaked through the gauze; the wound was nearly healed; the joint was a very little swollen and somewhat hotter than the other. The wound was again dressed antiseptically. This was repeated once or twice until the eighth day, when, the wound being soundly healed, the antiseptic dressing was laid aside, and a lead lotion kept over the joint for two days, after which Scott's dressing was applied round the joint, a light splint placed behind the knee, and the patient was allowed out of bed. A week after this he went to the Convalescent Home. He is now free from any stiffness or uneasiness in the joint, has free use of it, and is about to resume his work as a blacksmith.

With regard to the part which the antiseptic mode of dressing played in this case, it appears to me that it aided materially in procuring the almost complete immunity from inflammation which the patient enjoyed, and which rendered this hazardous operation successful.

ART. XIII.—*Dermatitis Exfoliativa, or Pityriasis Rubra.** By J.

MAGEE FINNY, M.D., Univ. Dubl.; Fellow King and Queen's College of Physicians; Physician to the City of Dublin Hospital.

THE disease, which I am about to illustrate by a case that came under my notice last summer, is one of considerable rarity. Since I became a member of the Medical Society, now ten years ago, but one case of this affection of the skin was brought before this Society, and I am not aware that before 1870 any paper on the subject was read at its meetings. So remarkable a lack of information on so interesting a subject can only be accounted for by the fact that the disease is far from common, and, owing to the absence of special dispensaries for the treatment of cutaneous disorders in connexion with our Dublin hospitals, it was confounded, when it did appear, with either eczema or psoriasis. As confirmatory of its rarity, it may be mentioned that although the name Pityriasis Rubra is as old as Bateman, the disease had only, in 1854, received the attention which its peculiarities deserved at the hands of Devergie in his *Traité Pratique sur les Maladies de la Peau*, and that since then it has been recognised by but some of the writers on dermatology, such as Hebra, E. Wilson, and T. Fox.

* Read before the Medical Society of the College of Physicians, Wednesday, Feb. 9, 1876. [For the discussion on this paper see page 252.]

C. C., a married woman, of low stature and of rather stout build, presented herself at the Skin Dispensary of the City of Dublin Hospital on July 3rd, 1875, with a scaly affection of the skin extending over her whole body. On the 8th July she was admitted to the wards under my care.

Her appearance is very remarkable, and attracts attention the moment the ward is entered.

The entire surface of the body, from the crown of her head to the soles of her feet, is of a vivid red colour, fading, on pressure, to yellow or orange red, and is covered by scales and whitish flakes of epidermis. The scales were mostly thin and papery, those in the scalp and face being "scurfy," or branny and small; those on the breast, back, and extremities, large, and not at all unlike fragments of thin light pastry. In some places, such as over the deltoid, the scaliness was markedly imbricated, in regular order, like the tiles of a house, the flakes being attached at one end, free and papery at the other, lapping over the scales below fully to one-half, and to a like extent hidden by those above. The palms of the hands and soles of the feet were, like the rest of the body, scaly, but here—due, probably, to the thickness and density of the skin—the scales were more adherent, and peeled off only in large masses, similar to those in the desquamation following scarlet fever. This condition, doubtless, caused the patient to complain of stiffness of her fingers and a feeling as if the skin would crack if she were to flex them. The same sensation was complained of at the wrists and elbows; but although at superficial examination in some of these places, the skin looked cracked, it was not so, as there was no exudation, and the appearance was produced by the large size and number of the flakes and mode of their arrangement.

The scales were everywhere most loosely attached; so free were they as to be removable on the slightest provocation. For example, when she presented herself at the dispensary, the act of lifting the thick veil, behind which she endeavoured to hide the disfigurement of her face, was followed by a shower of small flakes; and again, every morning the sheets of the bed and her night dress would be full of scales, large and small, which had been shed during sleep, and the floor of the ward under and around her bed would be covered with a still finer dust. Not less remarkable was the rapidity with which, in a few hours, a surface, clean and smooth, would be covered with scales, which, when shed, would be replaced by others, to spend in their turn their ephemeral existence.

On the third morning after admission enough flakes were collected during the night to fill a large bowl. Some of them were very large, and one, which I removed with the fingers from the front of the leg over the tibia near the ankle, and which I preserved, measured, when fresh, three and a half inches long by two inches broad, and these measurements it still maintains.

The only place free of any scales, but not free of the deep red colour of the rest of the skin, was the axilla; this is to be explained, probably, by the constant moisture of these parts. Some of the scales I examined microscopically, and found to consist solely of epidermic cells, free from any other element, granular or corpuscular.

The patient's face was much disfigured, not only by the deep red colour extending to the ears, and into the hairy scalp, which was covered by small scales, but also by a puffiness at the root of the nose and of the eyelids, and by the red blood-shot colour of the eyes. She looked, in this latter respect, exactly like a case of chronic palpebral conjunctivitis, but there was no history of "sore eyes;" "it was the disease," she used to say, "and they'd be all right if she got rid of the scabs!"

The muco-cutaneous surfaces at the nasal and oral orifices were in like manner affected; but no trace of scales could be detected inside the lips nor on the tongue or pharynx, such as has been noticed in some other instances; nor was the tongue markedly red, as occurred in the case read before this Society by Drs. J. Hawtrey Benson and W. Smith.* However, the patient, whose second attack of the disease this is, and who is much alive to all her symptoms, states that twelve months ago, when first attacked, the inside of her mouth was affected; and she attributes the scalding on making water, from which she now suffers, to the disease affecting the vaginal and urethral passages; this point I did not investigate by inspection.

In spite of the universality of the complaint, and the prodigious quantity of scales, no itchiness nor pain is experienced—only a sensation of burning heat, and a stiffness and feeling that the skin would crack, is complained of, and this burning, scalding heat is most intense at night. The skin is very slightly thickened—far different from what occurs in chronic eczema or psoriasis, and, when stripped of the overlying scales, *glossy, red, satiny to the feel, and free from all bleeding points and exudation.* From

* *Dubl. Quart. Journal.* Vol. XLIV., p. 451.

Devergie's description, however, the latter phenomenon might be expected to occur at certain stages, and has occurred in cases he met with, but, even then, it was quite different in character from that which occurs in eczema.

The patient's temperature was, I regret to say, noted but once on admission, and did not exceed 99°; pulse was weak—80 in the minute. Patient seems to be free from organic disease. Tongue furred; bowels costive; urine very scanty, acid, and high coloured, depositing a large amount of lithates, but free from sugar and albumen. Her chief complaints are general debility, incapacity for much work, and constant lowness of spirits. She is easily fatigued by even a short walk; suffers greatly from the "burning" at night.

The history of the patient, as supplied me by my clinical clerk, Mr. Blyth, is one pointing to general debility, and, without actual sickness, of ill-health for many years. The patient is the mother of fifteen children, of whom but five are now alive. Five were still-born, and one—born fourteen years ago—came into the world with "something wrong with its eyes," resulting in blindness. On inquiry as to syphilitic taint, it is probable that such existed, as her husband, who seems not to be one of the most sober or proper butchers in this city of intoxication, had attended a medical man for some complaint; and while she never had a sore or a rash, she underwent a course of medicine, some ten years ago, at the advice of the late Dr. John Hamilton.

Twenty years ago she noticed a rash on her left wrist and elbow, which, to use her own expression, used to "boil water." This eruption became gradually worse in spring and autumn, but never quite left her. Five years from its appearance she sought relief in Steevens' Hospital, as it had spread to both forearms. Under treatment by baths she recovered entirely; the rash left the skin quite clean. For four or five years she enjoyed total immunity from it, when it again made its appearance, and this time attacked both arms and legs, chiefly the knees. Its character was similar to what she had had before, and the eruption came and went with the same regularity as formerly. Four years ago she suffered from profuse menorrhagia, and lost "gallons of blood." Since then her changes have stopped. To this occurrence she attributes her present condition, as for a year after the type of the disease *changed*, and no longer "boiled water," but became scaly, and cracks appeared at the wrists and elbows. This new disease became general twelve months before she came under my care, and

extended over the entire surface of her body, not sparing the scalp, palms of her hands, or soles of the feet. It also invaded the mucous membranes of the nose and lips. Since then she has never been entirely free of it, but at times she got better, and her skin "cleaned;" and yet, whenever she was worried or much troubled, it returned as before. A fortnight before seeking advice at the Skin Dispensary of the hospital she states she was quite rid of it, which, on close questioning, means that the scaliness had left, and that the skin was soft and clean, but still red; that within a fortnight, owing to domestic troubles, aided by intemperance on her own part, the disease has returned with all its vigour, and her body assumed the appearance observed on admission.

The treatment I adopted commenced with opening medicine and diuretics to meet the most urgent symptoms; cloths steeped in oil were constantly wrapped round the extremities. Diet was not limited, and consisted of the ordinary full diet of the hospital, and all wine or stimulants were forbidden for a week, after which I gave her $\frac{3}{4}$ ij of wine.

On July 11th I put her upon the following nerve tonic, with m. v. doses of arsenic:—

R. Sulph. quiniæ, gr. xvi.
 Liq. ferri perchlor., $\frac{3}{4}$ ij.
 Liq. strychniæ, 3ss.
 Liq. arsenicalis, m 40.
 Aquæ distil., ad $\frac{3}{4}$ viii.

Mix.—An eighth part three times a day.

As the kidneys, which were free from organic disease, were very slow in acting, inhalations of spir. juniperi were practised, and on 14th a mixture of tinct. digitalis and liq. ferri perchloridi was substituted for the former one. On 16th, urine being now most copious, the quinine, iron, and arsenic mixture was resumed, omitting the liq. strychniæ, and this prescription was steadily persisted in till the 26th, when, owing to troubles at home, she left hospital, the arsenic being increased on the 18th to m vi ter. in die, and to m vii on the 24th.

Although alkaline-size baths were strongly recommended to her, and ordered for her, I failed to induce her to enter one, as, with prejudice shared in by many a wiser person, she attributes the universal diffusion of the disease to having taken warm baths. She

submitted, however, to immersing the right arm in an alkaline-size bath for half an hour at a time, but I am bound to say that the part so treated did not show any signs of more rapid improvement than others not immersed. Her past experience entirely approved the local application of ointments, and as olive oil answered best in her opinion, I employed nothing else.

Very shortly after the special treatment by arsenic and tonics was commenced, improvement began to show itself. First, the scales were no longer the large wide exfoliations which existed on admission, but became smaller and more accurately confined to the type of *pityriasis*.^{*} Then the redness became less vivid, and, on pressure with the finger, the skin was slower in regaining its abnormal hues. The scales rapidly diminished in numbers, so that on the 19th hardly a handful could be collected after the night. On the 21st her face had almost entirely lost its general scaliness, and the drawn look about the eyes and nose had, to a great extent, disappeared. On the 23rd the chest and back were wonderfully clean, and, although still present, the scales on the extremities were few and far between when she left hospital on 26th. Her spirits and general appearance had also greatly improved during her stay in hospital. After going home she visited the dispensary on 28th July, and again on August 4th and 11th, having steadily continued taking the mixture of iron, quinine, and arsenic.

The note taken on August 4th was as follows:—She is greatly improved, the skin being of a natural colour over every part of her body, and free from scales, except the face, which is still somewhat scaly. The scales are, however, very few, and in small branny clusters. The drawn look and ectropion much less evident.

On August 11th, when she visited the dispensary for the last time, the alteration for the better was still more marked, so that I hardly recognised her. The face had a few scales here and there, but such as might easily escape notice, and all the disfigurement of the eyes and red colour had quite passed away.

I have not seen her since, but the nurse of the ward in which she had been a patient informs me that C. C. has visited her twice since, that very lately she was quite well, and that her face and hands entirely free from the disease.

The pathology of *dermatitis exfoliativa* is, perhaps, still an unsettled question. "It would seem not unlikely," says Erasmus Wilson,^{*} "that the correct pathology of the disease is an ecze-

^{*} Erasmus Wilson on Diseases of the Skin. P. 180. 1867.

matous inflammation, in which cuticular exuviation takes the place of ichorous exudation." However this may be, its characteristics, as in the case I have detailed, are such as most readily distinguish it from eczéma. Its characteristics are as follow:—The abundance, size, and rapid reproduction of the scales; the universal engagement of the skin, spreading even to the mucous surfaces; the absence of pruritus and ichorous discharge; and the slight infiltration and thickening of the skin.

Devergie observes—an observation confirmed by all subsequent writers—that pityriasis rubra is the only scaly disease, with one single exception—namely, acute lepra—which attacks the whole body from head to foot, without leaving a sound spot.

With lepra it could hardly be confounded, for the characteristics, already alluded to, taken into consideration with the rapidity with which the disease invades the whole body, and the striking contrast the papery scales present against the deep red ground, from which they can be removed without bleeding or exudation, have nothing in common with universal psoriasis.

On account of the inflammatory symptoms with which it is in some cases ushered in and accompanied, I am disposed to agree with those who—discarding the term *pityriasis rubra acuta*, given it by Devergie, or *pityriasis rubra*, under which it is treated of by Hebra—give it the more scientific name of general dermatitis exfoliativa (Erasmus Wilson). The universality of the complaint, and the large size of the prominent symptom—the scales—are thus more clearly conveyed to the reader's mind.

From an examination of the recorded cases of this rare disease—amounting, so far as I have been able to meet them in the journals and writings of dermatologists, to but a dozen—it would appear as though there were two species of general dermatitis exfoliativa, and this view is put prominently forward by M. Percheron.* The first is ordinarily subacute or chronic. The second includes those cases where general exfoliation of the cuticle is produced all at once, running a rapid course, and resembling, in this respect, the eruptive fevers. In fact, some cases of dermatitis exfoliativa have been at first considered to be scarlatina or small-pox.

In this latter, or severe, variety the disease commences with all the symptoms of an exanthem. Fever high, 103° or 104° F.;

* Quoted by Dr. E. J. Sparks, Brit. Med. Journal. Nov. 6, 1875.

† Dr. Gardiner, Brit. Med. Jour., Mar. 13, 1875. Dr. Sparks and Dr. Percheron, *loc. cit.*

pulse quick; dry tongue; sore throat; gastric disturbance; and then an erythematous eruption appears. In two or three days desquamation ensues. Once this sets in, and it may last ten or twenty days, the diagnosis, which before was difficult, becomes easy. The occurrence of a crop of pustules, as happened in the case recorded by Dr. Ed. J. Sparks (*Brit. Med. Journ.*, Nov. 6, 1875, p. 583), renders the diagnosis from varioloid necessary. Cases of this variety are, fortunately, few, and in but one instance did the temperature attain 104°.

The most common variety is that of the subacute or chronic nature, which obtained in the case of C. C.

The reported cases of this rare skin disease, although in all points they do not agree, and although each case presents some one prominent feature, yet are sufficiently in unison to prove the disease to be unique, and the deviations in the descriptions to be due to the different lights in which it has been viewed by the various observers.

The age at which the disease usually appears Devergie states to be at the critical period of life, from forty to forty-five (and that it is met with more commonly in women than men). That such seems to be the rule may be gathered from the fact that the great majority of the recorded cases to which I have had access occurred after the age of forty-five; but that it may occur in the young a case detailed in *St. Bartholomew's Hospital Reports* (1874), by Mr. Norman Moore, of general exfoliative dermatitis in a girl of nine years of age, sufficiently testifies.

The time at which cases of the disease come under the observation of a medical man is usually so late that the exact mode of its appearance has, in the majority of cases, to be taken from the statement of the patient, and although in the acute form, to which I have made reference, the early symptoms have been carefully noted, the subacute, or chronic, form is fully developed in all its prominent symptoms when seen for the first time. Such was the case in the one instance reported before this Society, and occurred in all the chronic non-febrile cases published. Again, not only is the beginning rarely seen, but, as Hebra states (p. 70), "the disease is so rare, and its progress so remarkably slow, that there is great difficulty in carrying out the complete observations of any one case."

The chronic forms of the disease are most liable to frequent relapses, and may thus last for many years. In a case shown to the

Pathological and Clinical Society of Glasgow, by Dr. Gairdner, in the spring of this year, the disease had been noticed in that particular individual seventeen years ago by Dr. M'Ghie, and published by him in the *Glasgow Medical Journal* for 1858, p. 431.

Hebra takes an extremely gloomy view of this disease, as not only in his hands does all treatment—and he has tried most reputed remedies—fail to do good, but all the cases end fatally by marasmus, or by some intercurrent attack. It is gratifying, however, to find that other authorities do not agree with these views of the great German dermatologist, for several have been known to have quite recovered, and Tilbury Fox claims to have succeeded in curing five such cases. I am not vain enough to say that my case is perfectly cured, as I am well aware of the likelihood of its return, but I do think that the treatment adopted has been the means of relieving the patient, and curing this attack of the disease.

The line of treatment I pursued was suggested by common sense, as the red and congested skin could be successfully relieved by nothing so well as by rest and by soothing inunctions. Hence by diuretics I endeavoured to meet this prominent indication, and as soon as the urine became free, and was less heavily laden with solids, I directed treatment to the repair of the impoverished blood and the exhausted nerve-centres. To the full doses of arsenic, combined with quinine, I attribute much of my success, while to the astringent property of tinct. ferri perchloridi, steadily persisted in, I am inclined to award the rest.

It is gratifying to find that Tilbury Fox has employed, with like good results, the identical treatment I adopted. It was only lately, when I was looking up the subject, that I came on his report of a case in which he had commenced treatment by diuretics, and followed it up by iron (*Lancet*, Feb. 28, 1874, p. 294).

The duration of his case, under treatment, was four months, and this was considered remarkably short. My case lasted, under treatment, but eight weeks.

ART. XIV.—*Topical Blood-letting.** By E. D. MAPOTHER, M.D.; Professor, Royal College of Surgeons; Surgeon to St. Vincent's Hospital; and late Examiner in Surgery, Queen's University.

WHEN we draw blood by leeching, cupping, or incision, to relieve hyperæmia of organs or regions, we do not expect that the abstraction from the amount of the entire circulating fluid will afford the aid which is so often given. Each leech, for instance, removes scarcely $\frac{1}{300}$ th of the total blood, and a dozen of them applied to an adult cannot be supposed to depress sensibly the general vaso-motor force. For the control of the vaso-motor influence of a special organ or region no therapeutical agent can as yet be selected with confidence.

Topical blood-letting acts in two different ways—namely, (1) by deriving from the arterial circulation of the affected part—that is, letting blood easily escape from other vessels having a common origin—and (2) by emptying the veins which carry back the blood from the part to the heart. The vessels then can resume their normal calibre, and can take up effused materials, which they do with surprising quickness. Professor George Johnson's well-known illustration of the first way is most accurate and intelligible:—When his opposite neighbour, Poole, the royal tailor, illuminates for some glad event, the Savile-row main is largely depleted, and gas is derived most inconveniently from Dr. Johnson's house. The gas-mains have, however, no regulating power, such as the muscular arteries have, and this derivative mode of bleeding is seldom applicable, inasmuch as few arterial trunks send branches to organs and likewise to superficial spots whence we may bleed. For example, to relieve hyperæmia of the tissues supplied by the ophthalmic branch of the internal carotid artery, can section of a branch of the temporal offset of the external carotid avail much?

Still more useless is bleeding from the capillaries or veins which indirectly communicate with the vessels of the inflamed organ, and absurd is the only term applicable to the French practice of revulsion—for instance, leeching near the knees in cases of congested uterus or ovaries.

The blood returning from an inflamed organ is that most altered by the pathological process. For this reason, and to give direct relief to the vessels of the part, we should, if possible, drain from

* Read before the Surgical Society of Ireland, Friday, February 18, 1876.

the actual vein, or the veins with which it connects most fully and quickly, provided they be within reach.

I purpose to illustrate some of these anatomical relations, and if many of them are already known to you, bear with any attempt to attach to descriptive details memoranda of practical interest.

The action of topical irritants may be explained in the same way as the action of depleting measures from the part. Unaware that most organs can be drained from their special veins, surgeons of the past generation often felt that the only resource was general blood-letting. For example, let me cite, as regards the organ already alluded to, Mackenzie, who declares "scarification of the conjunctiva is useless, or even hurtful, in iritis. . . . The patient who could not previously discern the face of a person standing before him, except as a mere mass, will often exclaim, on opening the eye after venesection, that he sees clearly." Direct incision of a congested conjunctiva is plainly superior to leeching the temple in superficial inflammation.

The ophthalmic vein empties into the cavernous sinus, which connects with the two petrosal and lateral sinuses. By leeching, therefore, near the angle of the lower jaw, and over the mastoid emissary vein, we drain very directly from the eye, and there is now in St. Vincent's Hospital a man whose eye was saved from the ravages of iritis by these means. In a case of retinal apoplexy which Dr. Jacob lately saw with me, the best results followed leeching and subsequent blistering over the mastoid. The late Professor Jacob always selected this point for leeching in ophthalmic cases. That it was the usual bleeding point in every form of disease amongst the Egyptians appears from the writings of Alpinus 300 years ago.

The cerebral hemispheres send their blood back by the superior longitudinal sinus, which freely communicates with veins on the septum of the nose, through the foramen cæcum, and, with those of the scalp, through the parietal foramen, about one inch and a half in front of the posterior superior angle of that bone. If delirium pointing to active, or coma to passive hyperæmia suggested blood-letting, it can be done on the nasal septum—a place from which salutary bleeding so often arises. In no part of the mucous tracts are the vessels so near the surface. It may be noted that epistaxis does not occur from domesticated animals, and in their skulls the foramen cæcum (or, as it might be better named, the superior ethmo-frontal opening

does not exist. The circulation in these creatures is not urged on occasions such as arise in man's brain-work, and their horizontal posture renders valves in the veins of the head and neck useful, whereas man does not possess them. Epistaxis can never be regarded as a mere local flow, but as an escape for congestions of more important parts than the nasal septum. If the site of the emissary parietal veins, which is about four inches in front of the occipital protuberance, be made clear for leeches, by cutting the hair and washing the scalp, blood will freely flow.

In sunstroke and in severe concussion it is believed that considerable and sudden arrest of circulation occurs, and blood-letting at the above-named points would be indicated.

Extensive and promiscuous leeching of the scalp can only act in the way of general blood-letting.

If hemiplegic symptoms show that the base of the brain needs depletion, leeching over the mastoids will give any amount from the lateral sinuses. Otitis is relieved in the same way, as all the blood of the organ of hearing escapes by the same channel. The spinal veins are so intricate in their communications that depletion of any of them may be easily secured by drawing from the skin over any part of the vertebral column. The ready action of irritants like blisters or depressants, like cold in the same region, may be similarly explained. The great drain which aspiration to the chest secures might be utilised in head and spinal congestions by augmenting inspirations in the way suggested, for drowned persons, by Silvester, even if the patient were comatose.

The face and neck are more easily drained of blood than any other region, owing to the absence of valves in the veins, and leeches near the angle of the jaw will draw both from the sinuses and from the tonsillitic and palatine veins, all of which freely communicate with the pterygoid plexus. If, however, a congested or oedematous spot along the mouth, pharynx, or larynx can be reached, the scarificator is to be trusted.

The difficulties and danger of jugular venesection have banished the operation, but all its advantages can be had by leeching over the thyroid body, as the venous plexus there freely joins the superficial and deep vessels, returning from the head to the innominate veins. The rate of venous flow is here some 200 feet per minute, while in remote veins it is not one-tenth as rapid. The small size and compressibility of these vessels insures that canalisation is unlikely, and the flow from the leech-bites can be easily stayed. Leeches

over the sternum can scarcely relieve congestion in the larynx or trachea, while they would draw very directly if fixed near the thyroid veins. The veins from the pericardium mainly return to the internal mammary, and would be drained by leeches over the third, fourth, and fifth intercostal spaces at the edge of the sternum, especially on the left side. If, as so often occurs, there be pleuritis as well, the leeches will serve a double purpose, for the pleural veins also empty at these spots. Here, also, as the arteries supplying those membranes and the veins returning their blood are so closely contiguous, local blood-letting would act in both the ways I have mentioned—the deriving from neighbouring arteries and the emptying of veins returning from the inflamed part.

The lungs clothed with serous membranes, which isolate them from the chest walls, cannot be depleted by draining the surface of the front, sides, or lower part of the back of this region, but may on the left side, where the superior intercostal receives the bronchial veins near the fifth intercostal space. At about the third intercostal space of the right side the bronchial veins join the azygos, a trunk which has already received the intercostals and left bronchial veins. The bronchial vessels mainly supply the mucous surface, and can be drained by the sources just mentioned. The fittest site for leeching would then be over the third space, between the spine and scapula. Last Monday, in St. Vincent's Hospital, a girl, recovering from acute rheumatism, was seized with sudden and intense dyspnœa, due, it was believed, to pulmonary embolism. Free leeching in the place indicated gave the most surprising relief. Congestion of the pulmonary circulation, such as has been so often seen during the past two months of bronchitic mortality, could be better relieved by leeching over the thyroid plexus. When surgical injuries to the lungs arrest breathing power, the right heart must be distended, and thyroid bleeding seems clearly indicated. The same step seems most advisable in all those frequent medical cases which obstruct the pulmonary circulation, and overload and palsy the right ventricle. Over forty years ago Professor John Reid proved the wonderful preventive power of jugular bleeding—especially from the lower orifice—over death in drowned and hanged animals, and those poisoned by drugs which paralyse muscular tissue. At all times blood easily passes between the right auricle and ventricle.

The abdominal wall is supplied by the internal mammary, lower intercostal, and epigastric vessels, while the organs within are

connected with the aorta, portal, and inferior caval veins. They are, moreover, separated by a great serous cavity. Leeching the skin of the belly may, therefore, drain the inflamed parietal peritoneum, but cannot sensibly affect the circulation in the stomach, intestines, liver, or spleen. These organs return their blood by the portal vein, and draining it at the rectum is the fittest indication when they are congested or inflamed.

If Luschka's statement, that the umbilical vein, or ligamentum teres, of the adult is constantly pervious from the left branch of the portal to the deep epigastric be correct, leeching round the navel may be direct and effectual in inflammations of the liver and all other organs discharging blood by the portal vein. This anatomical point, however, requires confirmation.

For acute dysentery of the tropics and other inflammatory affections of the abdominal organs, a hundred or two of leeches have been used without avail, according to writers of the last generation, while half as much blood drawn quickly from the arm produced a profound impression on the system.

There is no organ which has so special a blood-supply as the kidney. Insulated in a mass of fat, it joins no other part by vessels except on the left side the testis, by the spermatic.

Renal congestion can, therefore, be scarcely influenced by leeching, or cupping the loins, and the good supposed to follow them must be attributed to the warmth, rest, and low diet which usually are enforced, the first determining to the skin to the relief of the renal arteries; the others checking the formation of nitrogenised compounds. The labour of the organ is lessened by all these means.

The testicle returns its blood by the spermatic veins, and as these vessels pass through the groins and join the superficial veins of the region, leeching there is best calculated to relieve the organ. The veins of the scrotum return to the superficial pubic and epigastric, and puncturing them I have found valueless in cases of orchitis, whilst the risks of erysipelas or ecchymosis forbid leeches. Puncturing as deep as the tunica albuginea has been recently urged by Mr. Henry Smith, and it probably does the good by the loss of blood from the congested vessels. If the inflammation is confined to the epididymis, as is usually the case, puncturing the fibrous capsule of the body of the organ could scarcely act by lessening tension.

The anus has been often selected for leeching in hepatic conges-

tions, but as it is only the superior hæmorrhoidal veins which return to the portal vein, any external bleeding can only be indirect. The middle and inferior hæmorrhoidal veins go to the internal iliac. In the male nothing can be more intimate than the anastomosis between the veins of the bladder and prostate and rectum, and hæmorrhage from one of these regions is often vicarious with that of the other. Mr. Fleming will recollect a case which we both saw, in which the cessation of hæmorrhoidal bleeding was followed by hæmaturia, the source of the blood being clearly vesical.

To draw blood in acute cystitis or prostatitis the surface of the rectum is the fit site, and as leeches will scarcely fix there, it is better to puncture one or two veins with a narrow long bistoury, the gut being held open by a speculum.

Concerning obstetric subjects, I always speak with diffidence. While it must be acknowledged that we have learned much from the practice of letting blood by direct incision of the womb for congestive or inflammatory affections, it appears necessary that in the case of virgins we should seek some other source for depletion—the need, on account of moral reasons, is obvious—and anatomically the uterine plexus is slightly developed in the unimpregnated, and depletion from the labia or rectum will drain more fully. Around the rectum there is a free junction between the superior hæmorrhoidal and uterine veins.

The veins in the limbs, deep and superficial, join at most numerous points, in order that the circulation shall not be interrupted during muscular action. Leeching the skin over an inflamed joint or periosteum is, therefore, the same as opening the vessels coming from the invaded part, and hence the undoubted efficacy of the measure in such cases. By the way, it is remarkable that we so rarely find the muscles the seat of inflammatory action. The rapid flow of blood, urged on by the muscles themselves, which are like hearts to the veins, may account for the immunity, whereas the fibrous tissues, so sparingly supplied, are often inflamed in the subacute way, and topical blood-letting is most efficacious. When treating aneurisms by complete pressure, leeching over the sac should give aid, by lessening the tension of the arrested blood, relieving it of serum and increasing the fibrin. In cutaneous inflammations, erysipelas, acne, &c., the flow of blood and its effused fluids by incisions is too obviously efficacious to need comment.

Venesection at the bend of the elbow is almost a thing of the past, and to the question of general blood-letting I do not allude, but in severe whitlows and synovitis of the wrist-joint it gives striking relief as a topical measure.

The same may be true of opening the internal saphena vein in acute inflammation of any part of the lower extremity.

As to the modes of topical bleeding, leeching is very generally applicable, and the German practice of puncturing the left side of the animal so as to open the last of the gastric pouches—*Bdellatomy*, as it is termed—is worthy of imitation, as blood flows far more rapidly, and the quantity is trebled from each bite. Cupping over the bites when the leeches have dropped off draws blood quicker than stuping, and the bleeding will more readily stop, for the blood coagulates, its gases being exhausted.

Still, without dread, we cannot order the introduction of leeches into the nasal, pharyngeal, rectal, or vaginal cavities; and puncturing the veinlets and aiding the flow by irrigation with warm water may be well substituted. Incisions draw blood more quickly, and the bleeding is more easily stopped. I have often bled from the nasal septum by touching the mucous membrane at three or four points with a sharp long bistoury, the *ala nasi* being fully everted. The curved abscess lancet, or the pointed uterine scarificator of Meyer, is in some situations more convenient. Collin's modification of Baron Heurteloup's artificial leech is most effectual on the skin, and it might be lengthened to suit for use in mucous passages. The circular shape of the blade secures cross section of the little vessels, and the pump covers six of the incisions if necessary.

Let me now recapitulate some of the organs and the superficial spots whence they may be drained:—The eye at the mastoid process and angle of jaw; the cerebral hemispheres at the nasal septum and posterior inferior angle of the parietal; the base of brain and ear at the mastoid; the right heart over the thyroid body; the pericardium and front of pleuræ outside the caps of sternum; the lungs along the bases of scapulæ and the digestive organs from the rectum. From the veins of this gut also, those of the bladder and prostate, uterus and ovaries, can be depleted.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

Clinical and Physiological Researches on the Nervous System.

1. *On the Localization of Movements in the Brain.* By J. HUGHLINGS JACKSON, M.D.

WE are very glad to see that Dr. Hughlings Jackson has resolved to reprint some of his more important papers on nervous physiology and pathology. Notwithstanding a certain wordiness and sometimes even a little obscurity of his style, there is no living physician who has done more than Dr. Jackson to place the study of nervous diseases on a sound basis. Possessed of great originality, keen powers of observation, and indefatigable industry, he has made such use of the large material at his disposal that the physician, the pathologist, and the physiologist, are alike indebted to him.

The present paper is reprinted from *The Lancet* of 1873. It is preceded by a preface of far greater length than the paper itself, and followed by a reprint of a paper by Dr. Gowers, on convulsions arising from organic brain disease. It is full of interesting and suggestive matter, and will well repay perusal by whoever is not already acquainted with its contents.

Illustrations of Clinical Surgery. By JONATHAN HUTCHINSON.

Fasciculus II. London: J. & A. Churchill, New Burlington-street.

THIS number of Mr. Hutchinson's "Illustrations of Clinical Surgery" contains four full-page plates, done in the best style of lithographic art. The subjects are "Varieties of soft sore," "Melanosis," "Hydrocele of the neck," and two examples of rare skin affection. The feature of the number is the discussion of some forms of venereal disease. The author lays down a number of rules for the diagnosis of chancres, and gives a scheme of the course, stages, and sequelæ of acquired syphilis, as well as a chronological statement of the course of that disease in cases in which

mercury has not been given. This will be found a very interesting and important series of observations. Mr. Hutchinson has undertaken no more valuable labour than this, and we can only hope that the amount of support given to him will enable him to carry out fully the plan which he has sketched in the "author's announcement."

On the Treatment of Pleurisy; with an Appendix of Cases, showing the value of combinations of croton oil, ether, and iodine as counter-irritants in other diseases. By JOHN W. CORSON, M.D., &c., &c. New York: William Wood & Co., 27, Great Jones'-street. 1874. Pp. 31.

THIS very readable little treatise is a reprint, with the addition of an Appendix, of a paper read before the New York Medical Library and Journal Association, "On the General Treatment of Pleurisy, and the use of 'Croton Oil Paint' as a Substitute for Fly-Blisters." Of the croton oil paint the author uses two forms, a milder and a stronger one. Of the milder paint the formula is—

R. Olei croton tigllii	-	-	-	3j.
Ether sulphur. fort.	-	-	-	3ij.
Tinct. iodi.	-	-	-	3v.

Apply two or three coats at a time, with a camel's-hair brush, over a small surface once a week. This milder form is most useful for children, females, and sensitive males. The formula for the stronger paint is—

R. Olei croton tigllii	-	-	-	3ij.
Ether sulphur. fort.	-	-	-	3iv.
Tinct. iodi.	-	-	-	3ij.
Potass. iodid.	-	-	-	3j.
Iodine	-	-	-	gr. x.

These combinations have, in the author's practice, entirely superseded blisters in the majority of cases of pleurisy. He applies them within forty-eight hours after the effusion. Pustulation generally ensues in within forty-eight hours; if not, the paint may be re-applied. When the pustulation spreads uncomfortably, or is more painful than usual, these accidents may be relieved promptly by brushing over the eruption with equal parts of glycerine and laudanum, and then covering it with a soft piece of linen moistened with olive oil.

PART III.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE COLLEGE OF PHYSICIANS.

SAMUEL GORDON, M.B., President.

GEORGE F. DUFFEY, M.D., Honorary Secretary.

Wednesday, February 9, 1876.

THOMAS HAYDEN, F.K.Q.C.P., Vice-President, in the Chair.

DR. FINNY read a paper recording "A Case of Dermatitis Exfoliativa." [It will be found at page 234.]

The CHAIRMAN said the case was of great interest, not alone from the rarity of the disease, but from the difficulty of distinguishing it from certain other forms of skin disease. He had seen only one similar case many years ago, and had no record, and but a very imperfect recollection of it. The case was that of a poor woman, about forty years of age. The surface of her skin had exfoliated from head to foot. There was no exudation. She lived in a distant part of the country, and he could not say whether she had been subjected to any treatment or not. He believed the disease had some relationship to syphilitic psoriasis. Dr. Finny's case, he thought, lent confirmation to that view. It might be questioned whether the iron ingredient in Dr. Finny's treatment was not as efficacious as the arsenic.

DR. HAWTREY BENSON referred to a similar case which had been under his notice; the particulars of which, in conjunction with Dr. W. G. Smith, he had brought under the notice of the Society.* Arsenic, to his surprise, in the acute stage of the disease, agreed remarkably well with the patient, and he improved rapidly under it. In a month's time all the scales had disappeared, and the redness of the skin had subsided. The

* *Dubl. Journal of Med. Science.* May, 1870.

patient was also treated with alkaline baths and emollient ointments. The entire duration of the disease in his case, from the time when it first manifested itself in red points until it disappeared, was thirteen weeks, during seven of which the man was under treatment. The disease seemed to be less severe in this country than in Germany, where Hebra took a gloomy view of it and regarded it as incurable. The mortality from it appeared to vary in different countries. His patient had had no return of the disease.

DR. HENRY KENNEDY asked if Dr. Finny considered the case he had described to be allied to ichthyosis? He (Dr. Kennedy) was inclined to look on it as a form of eczema. The case of a woman who was affected from head to foot in the manner described, had come under his notice. She had a great deal of suffering, principally in her legs, and in spite of all that could be done for her, died. In her case the disease had all the characteristics of eczema, and was accompanied with exudations. Skin diseases were very uncertain. Arsenic succeeded with some patients, while the constitutions of others rebelled against it. In such cases he had known pitch pills administered, with good results, after the inflammatory symptoms had subsided. It was doubtful whether diseases of this sort could be entirely cured, though, unquestionably, treatment was effective. He regarded the linimentum calcis as a more useful application in such cases than oil.

DR. MACSWINEY said it was questionable whether this disease was not, after all, a form of chronic eczema. A somewhat similar case, in the person of a grocer's assistant, was brought, some time since, to Jervis-street Hospital. The man was quite free from syphilitic taint. An ichorous discharge had preceded the formation of the scales on his body. His case was treated as one of chronic eczema, and after two months he left the hospital perfectly cured. He thought the connexion of this disease with syphilis required more proof than had been given. If there had been a syphilitic taint in Dr. Finny's case, other indications of syphilis than those he had mentioned would have appeared. As to treatment, he recommended liquor potassæ internally, and carbonate of soda externally.

DR. FINNY, in reply, said that the scales were purely epidermic; no corpuscular elements were found. No chemical examination of them had been made. As regarded a syphilitic origin of the disease, it was to be borne in mind that neither syphilis nor psoriasis affected the whole external surface of the body. These only manifested themselves in diseased patches. At least, so much of the body was not affected in these diseases without severe constitutional disturbance and symptoms of blood-poisoning. He thought there was a well-marked distinction between the disease in

question and ichthyosis. The universal induration of the skin in the latter was quite different from the velvety, deep red orange surface presented in the former; nor were the scales in ichthyosis like those of dermatitis exfoliativa. Again, ichthyosis was a congenital disease, manifesting itself in childhood, and lasting for years or, perhaps, a lifetime. He did not deny that the same constitutional tendencies which gave rise to eczematous disease might lead to dermatitis exfoliativa. In his case there was an entire freedom from eczema for four years. He considered that the absence of all thickening which occurred after eczema—the absence of the staining, which was a feature of psoriasis, and the enormous production of scabs in dermatitis exfoliativa—entirely separated the latter from lepra or eczema. As regarded treatment, he was in favour of iron, and particularly arsenic, the latter of which ought to be administered in large doses, so as to produce its physiological effects.

DR. HAYDEN read a paper on “Biliary Colic.” The discussion on the paper, owing to the lateness of the hour, was adjourned until the next meeting.

The Society then adjourned.

ADDISON'S DISEASE.

A LABOURER, thirty-eight years of age, was admitted last July to the Hôpital Lariboisière. His skin was of a blackish-bronze colour like a Mulatto's, the parts exposed to the light being a little darker than the rest. His hair was grey. Although possessing a robust figure and an average amount of flesh, he complained of extreme weakness and constant vomiting; heart regular, and urine normal. Twenty-two years ago he was paralysed from an injury to the lumbar vertebræ, but recovered perfectly. It is six years since he noticed any discolouration of the skin. Uncontrollable vomiting and diarrhœa carried him off. At the autopsy, both supra-renal capsules were enlarged, hard, and firm; on cutting open the left one a caseous mass was found to occupy three-fourths of the organ, it was of a compact structure, and of whitish aspect streaked with yellow. It was easily detached from the cortical substance. In the part which was comparatively sound, there were three or four little tuberculous masses. The right supra-renal capsule presented much the same appearances, except that the degeneration did not seem so far advanced, nor was its extent so great. The nerves from the solar plexus were unaltered. The kidneys were healthy; but under the left kidney was found an abscess of the size of a walnut with caseous contents, and communicating with the seat of a fracture of the vertebræ. The case supports Dr. Headlam Greenhow's view that the supra-renal disease is often consequent on injured lumbar vertebræ or inflammations of neighbouring parts.—*Le Progrès Médical*.
S. W.

PROCEEDINGS OF THE DUBLIN OBSTETRICAL SOCIETY.

THIRTY-EIGHTH ANNUAL SESSION.

LOMBE ATTHILL, M.D., President.

J. RUTHERFORD KIRKPATRICK, M.B., Honorary Secretary.

Saturday, January 8, 1876.

THOMAS MORE MADDEN, M.D., Vice-President, in the Chair.

DR. KIDD.—I have to exhibit a specimen of a placenta sent to me by Dr. M'Dowell, of Carlow. The fœtus is extremely small, and the placenta enormously large, but whether in consequence of fatty degeneration or from other causes I cannot say. Accompanying the specimen is the following account of it by Dr. M'Dowell:—

On 16th December, 5 p.m., Margaret Hoare, residing in Henry-street, Graigue, requested I would visit her.

The patient, a robust woman, twenty-eight years of age, the wife of a boatman, had been married six years; had three children living, the youngest two years of age; stated that she had not menstruated for the last nine months: that in August last she "quickened," and never felt life since. On Sunday last (four days previously) she perceived a show, or loss, of blood, which had continued up to the time of my visit; had never previously miscarried. On examination I found a withered limb of a fœtus protruding from the external vulva; there did not seem to be much hæmorrhage going on. I delivered by slightly dragging the exposed leg, and pressure on the abdomen. The sensation communicated to my hand into the foregoing proceeding led me to believe that the head jerked out of the womb as I pulled. After delivery there was a slight gush of dark blood. The fœtus was about the size of a five months' child; it had evidently been dead some time—probably three or four months, or soon after quickening; the cord was very small, and partook of the shrivelled character of the fœtus; no blood flowed through it on its being cut across. The womb was still about the size of a woman's at the fourth month, so it occurred to me that there might be another fœtus, or, at least, that the placenta of this one was unusually large. The latter supposition turned out correct.

The cord bore considerable pulling, but eventually it gave way while

endeavouring to extract the placenta, which was "encysted." It took considerable time—say three-quarters of an hour—to dilate the os, and remove the after-birth, which was very large, as compared with the size of the foetus. It seemed as if the placenta had continued to grow, although the foetus was dead, or else that its structure degenerated, as it had none of the appearances of a healthy one; the part that had been next the womb was pale and fatty-looking; that part next the foetus dark and discolored. After the extraction of the placenta very serious hæmorrhage came on, which lasted an hour, and was eventually controlled by cold and liquor ergotæ. Next day severe after-pains set in, which were relieved by opium. Two days after the breasts were as large, and contained as much milk as they ever did when in her former confinements. The woman is now making a good recovery. About the time of her quickening the woman acted as farm-labourer, and had occasionally to be driven out a distance of four or five miles in a common cart, to the jolting of which on a bad road she ascribes the death of the child. All her previous confinements have been natural, producing healthy children. She had always done similar harvest work. Neither she nor her husband had ever had syphilis.

A Report of the Rotunda Lying-in Hospital for the year 1875. By GEORGE JOHNSTON, M.D., F.K. & Q.C.P.; late Master of the Hospital.

GENTLEMEN,—The seventh and final year of my Mastership of the Rotunda Lying-in Hospital having drawn to a close, I feel desirous to complete the task I undertook when I commenced my official career—i.e., of giving, in as accurate and impartial a manner as lay in my power, an annual account of the health of the institution, so that a just opinion might be formed of its sanitary state, and a fair conclusion arrived at, whether a large maternity is or is not a safe asylum for those poor creatures who find it necessary to seek its shelter.

In coming, however, or rather before coming, to a conclusion on this point, it is essentially necessary to take into consideration that in this time-honoured, noble institution—whose reputation extends to all parts of the world, whose doors are ever open to those requiring its protection—patients from all quarters seek admission, many labouring under various affections, both of mind and body, as well as those of their parturient state.

Some far gone in labour, who, neglected or mismanaged by unskilful persons in their own wretched rooms, seek our aid when, mayhap, they are in a most hopeless, if not a dying state.

Others with the symptoms of fever or other zymotic complaints apparent, are admitted, being at the same time so far advanced in labour that it would be utterly impossible (without running great risk) to send them to a fever hospital.

Many, led astray by heartless, designing individuals, having been seduced and becoming pregnant, and being too modest to bear the observations and remarks of acquaintances in the locality where they are well known, rush into the Lying-in Hospital, that, amongst the crowd, their shame may pass unnoticed.

These are essential matters that those discussing the merits of a large maternity should bear in mind, instead of looking superficially at its death-rate, without taking into consideration the various casualties that such an institution is exposed to, before they bring an unfair accusation against it.

For instance, during the past year our casualties (what is meant here by the word is the peculiar conditions in which a patient may be labouring under on admission other than her mere parturient state) amounted to 104, besides 60 cases of seduction. Among the former there were 16 from fretting, either from ill-treatment, deserted by husband or his death shortly before, delicate, from starvation, &c.; 5 from tonsillitis or laryngitis; 6 from pulmonary affections—bronchitis, pleuritis, pneumonia, phthisis, hæmoptysis; 4 from convulsions; cases of gastritis, hæmatemesis, diarrhoea, peritonitis—pyæmia, fever, scarlatina; abscess—1 of the mamma and 1 in the neck; cardiac, hepatic, and nephritic disease; rheumatism, syphilitic disease, carcinoma of the breast, making in all 164 cases which were admitted under unfavourable, if not most critical circumstances, and, therefore, extremely susceptible of any puerperal affection, quite irrespective of their being confined in an hospital.

During the past year, from the 6th November, 1874, to the 5th of November, 1875, inclusive—

1,065 patients were delivered in the hospital.

275 „ were delivered in their own homes.

214 „ were treated in the wards for female complaints.

2,867 „ were prescribed for at the dispensary, fully one half of which were treated in the examination room for uterine diseases, making in all

4,421 „ relieved during the year.

Of the 1,065 cases of labour, 813 were perfectly natural—i.e., the head presented, the child was born within 24 hours, without any artificial aid or any untoward circumstance occurring, the placenta was expelled by the natural efforts, and there was no *post partum* hæmorrhage. 40 were abortions—i.e., the ovum, or the embryo, was expelled from the sixth week to the end of the sixth month of pregnancy.

In 2 instances the child presented with the upper extremity, and in 37 with the lower.

TABLE 1.—*Monthly Abstract of Deliveries, Casualties, &c.*

[illegible]

We considered it advisable to deliver in 113 instances with the forceps. In 5 instances craniotomy had to be performed, and in 4 instances we performed version.

Labour was induced in 2 instances.

In 11 instances the labour was complicated by twins, in 1 by triplets, in 4 by convulsions; there were 11 cases of accidental hæmorrhage, 2 cases of placenta prævia, 31 of *post-partum* hæmorrhage, viz., 26 trivial, or comparatively so, and 5 serious, 15 of retained placenta, 4 cases of prolapse of the funis.

Chloroform was administered in 100 instances.

Our mortality amounted to 27 from all causes, or about 1 in 39½.

This may be considered by the casual observer as being a large number, but when the circumstances of each individual case are taken into consideration, it can be easily accounted for, otherwise than their having been confined in our institution—thus, there were 10 cases of seduction, suffering more or less from great distress of mind; 2 fretting, from having been deserted by their husbands; 5 in extreme delicacy of health, some with pyæmia upon them on admission; 2 cases of scarlatina; 1 bronchitis, pleuritis and pneumonia; 1 diarrhœa, terminating in peritonitis; 1 fungoid tumour of the uterus, and fatty heart; 2 peritonitis; 1 renal disease.

DEATHS.

The 1st which took place was from fungoid tumour of the uterus, with fatty heart, aged 30, 2nd pregnancy, admitted in a very delicate state of health; had suffered from sickness of stomach and general delicacy all through her pregnancy; her labour was tedious in the 1st stage, from rigidity of the os, which was treated in the usual manner; the 2nd stage was delayed from disproportion; we were obliged to deliver with the forceps; the placenta was expelled in 11 minutes, not followed by any hæmorrhage; the binder was adjusted, and in about 40 minutes after, some clots were pressed off, and again in 1 hour some more. The assistant on duty, finding the pulse weak, and although the uterus was fairly contracted, still finding it larger than usual, injected the solution of the perchloride of iron. However, she became weaker, face and lips changed to quite a livid colour, she frothed at the mouth, and died in two and a half hours after delivery.

On *post mortem* examination there was a large fungoid tumour found occupying the cavity of the uterus, and the heart was in a state of fatty degeneration. There was no indication whatever of any injurious effect having been produced by the treatment.

TABLE 2.—Deaths from all Causes.

No.	Date of Delivery	Date of Death	Ward	Bed	Age	No. of Pregnancy		Cause
						1st	Subt.	
1	1875 Jan. 21	Jan. 21	8	Couch	30	—	2	Fungoid tumour of the uterus ; fatty heart.
2	Feb. 2	Feb. 13	7	60	26	—	2	Deserted by husband ; pleuritis, followed by peritonitis.
3	" 8	" 10	4	43	23	1	—	Renal disease.
4	" 11	" 18	7	62	21	—	5	Pyæmia on admission, peritonitis supervening.
5	" 11	" 18	6	70	20	1	—	Seduced ; distress of mind ; peritonitis.
6	March 4	March 7	3	23	25	1	—	Seduced ; distress of mind ; bronchitis ; peritonitis.
7	" 10	" 16	7	58	21	1	—	Seduced ; distress of mind ; peritonitis.
8	" 19	" 25	6	66	27	1	—	Very delicate ; anæmic ; peritonitis in 20 hours.
9	May 5	May 11	7	Private	28	1	—	Seduced ; distress of mind ; peritonitis in 24 hours.
10	" 11	" 16	6	62	23	1	—	Scarlatina.
11	" 11	" 17	6	70	27	1	—	Very delicate ; fretful ; anxious ; peritonitis in 39 hours.
12	" 12	" 17	7	57	28	—	5	Bronchitis ; pleuritis ; pneumonia.
13	" 11	" 20	6	69	23	1	—	Deserted by husband ; distress of mind ; fever ; peritonitis.
14	" 17	" 21	2	19	23	—	6	Pyæmia on admission.
15	" 18	" 23	4	39	22	1	—	Diarrhoea, peritonitis supervening.
16	" 20	" 24	5	44	24	1	—	Peritonitis 14 hours after delivery.
17	" 19	" 25	5	45	34	—	2	Peritonitis in 46 hours after delivery.
18	" 21	" 28	12	110	25	1	—	Seduced ; distress of mind ; peritonitis.
19	" 24	" 27	8	83	19	1	—	Seduced ; distress of mind ; fever ; mania ; peritonitis.
20	" 28	June 3	5	20	27	1	—	Seduced ; distress of mind ; peritonitis in 40 hours.
21	" 11	" 15	6	49	23	—	2	Extreme delicacy ; fretting ; peritonitis in 1 hour.
22	" 24	" 29	6	69	28	1	—	Seduced ; distress of mind ; peritonitis at once.
23	July 8	July 14	3	85	30	1	—	Seduced ; distress of mind ; feverish on admission ; peritonitis.
24	" 27	" 28	3	30	23	1	—	Seduced ; convulsions.
25	Sept. 4	" 15	6	69	22	1	—	Very delicate ; peritonitis on second day.
26	" 11	Sept. 21	7	Private	22	1	—	Very delicate health ; pyæmia supervened.
27	Oct. 22	Oct. 28	3	27	35	—	8	Scarlatina.

2nd. Aged 26, 2nd pregnancy, admitted in very delicate health, fretting, having been deserted by her husband; suffering from dyspnoea, owing to pleuritis; has been in very bad circumstances for some months, both from scarcity of food and deficiency of clothing, to which she attributes her present state; we were obliged to deliver with the forceps; no *post partum* hæmorrhage. Her strength was supported, and she was treated for the chest affection, but eventually peritonitis supervened, and she died on her 11th day.

3rd. Aged 23, primipara, was a case of difficult labour, owing to the brow presenting, which could not be rectified, and after trying the forceps ineffectually, we were obliged to lessen the head and deliver by the crotchet; no *post partum* hæmorrhage; however, she became very weak, sickness of stomach supervened, she fell into a comatose state, and died in 31 hours. *Post mortem* examination revealed *extensive disease of right kidney, the pelvis of which was completely destroyed*. Uterus and vagina healthy in every respect.

4th. Aged 21, 5th pregnancy, admitted from North Wales in a wretchedly delicate state of health; anæmic; child born in a cab at 8 months, the result of a fall off a car the day previous; the child died in 15 minutes; stated she has been in bad health for last 4 months; on admission was suffering from bronchitis, and both legs presented purpurous patches over them. The labour was natural; in 6 hours complained of after-pains; following morning there was abdominal tenderness, some headache; pulse 104, weak; tongue clean. On the 13th, pulse 116; very weak; tongue moist; great abdominal pain and tenderness. She sank on the 7th day.

5th. Aged 20, primipara, admitted with accidental hæmorrhage; could assign no cause; complaining of intense headache; her tongue foul; pulse 100; had not slept for last month; she was evidently suffering from great distress of mind; the membranes were ruptured, and labour went on naturally; in 11 hours peritoneal symptoms set in, and she died on the 7th day.

6th. Aged 29, primipara, *seduced*; admitted under great distress of mind (suffering also from bronchitis, with dyspnoea); and, as she said herself, she "came in to die." Her labour was natural; peritoneal symptoms set in immediately; the following day her pulse was 146; her tongue dry; she sank rapidly, and died in 56 hours.

7th. Aged 21, primipara, *seduced*; admitted in great anxiety, nervousness, and distress of mind; tongue white, furred; pulse 100; fretting greatly; she had to be delivered with the forceps, labour being tedious (36 hours), owing to early rupture of the membranes; peritoneal symptoms developed themselves the next day, and she died on the 6th day.

8th. Aged 27, primipara; admitted with bronchitis, and dyspnoea, from

which she has been suffering for the last month; œdema of the feet and legs, and very anæmic; her labour was of short duration; the placenta was morbidly adherent, and had to be removed; no *post partum* hæmorrhage; peritoneal symptoms set in within 24 hours, and she died on the 6th day.

9th. Aged 28, primipara, *seduced*, fretting greatly; her labour was slow, in consequence of early rupture of the membranes; we had to deliver with the forceps; no *post partum* hæmorrhage; the following day all the symptoms of peritonitis developed themselves, and she died on the 6th day.

10th. Aged 23, primipara; admitted in labour at 1 o'clock a.m.; had a cough for last fortnight; pulse 140; a dusky hue was remarked over her face, neck, and hips; the child presented by the breech; her labour was easy; no *post partum* hæmorrhage; scarlatina was fully developed in 4 hours after, and she sank on the 5th day.

11th. Aged 27, primipara, admitted with a pulse of 100; tongue dry; face flushed; feverish; in a state of great anxiety; came up from the country in search of her husband, who had deserted her; we had to deliver her with the forceps, owing to inertia; peritoneal symptoms showed themselves within 40 hours, and she died on the 9th day.

12th. Aged 28, primipara, admitted in very delicate state of health; fretful and anxious about herself, fearing the result; she had to be delivered with the forceps, owing principally to her great nervousness; no *post partum* hæmorrhage; peritoneal symptoms appeared in 39 hours, and she died on the 6th day.

Now, it is worthy of remark, with regard to the three last cases, that there were 5 patients confined in the ward (No. 6) on the same day. 1, in 70 bed, dies of scarlatina, which she brought in with her. 1 in 69, bed adjoining, is admitted in fever, with great distress of mind, and is attacked with peritonitis, of which she dies. Of the next 2 beds—68 is occupied by a woman, her 3rd pregnancy, goes out quite well. Next to her, in 67, a wretchedly delicate woman, with secondary symptoms, is confined in her 7th month, who gets an attack of secondary hæmorrhage on the 5th day; notwithstanding, she makes a steady convalescence, and is discharged recovered from the effects of her confinement. While in 66 bed is a patient, a primipara, admitted in very delicate health, fretful, and nervous, anticipating the result; she is seized with peritonitis, and dies. We may surely conclude from this, that there was not anything of an epidemic nature existing in the ward; if so, the intervening patients would have taken it—at least the very delicate patient in 67 bed.

13th. Aged 28, 5th pregnancy; admitted in labour in her 7th month; suffering from acute bronchitis, pleuritis, and pneumonia of left side, with great dyspnœa; her labour was natural, of short duration; she died on her 5th day.

14th. Aged 23, her 6th pregnancy; admitted with patches of pyæmia on her left leg, near the knee, and the back of her hand of the same side; has been in delicate health for last month; her labour was natural; the following day the patches extended to her wrists, elbow, shoulder, and right leg; feverish symptoms increased; thermometer 104°; and she sank on the 4th day.

15th. Aged 22, primipara, admitted in labour, and was confined in 5 hours naturally; went on favourably till 43 hours after delivery, when she was attacked with diarrhœa; pulse 140; tongue foul, red edges; abdomen tender, marked peritonitis was soon developed, with vomiting, and she rapidly sank, and died on the 5th day.

16th. Aged 24, primipara; her labour was tedious in both stages; we had to deliver her with the forceps; there was no *post partum* hæmorrhage; the labour was completed at 6 30 p.m. The following morning, at 9 30 o'clock, she was found with her pulse 120; tongue moist, but furred; abdomen tender and tympanitic, and she sank rapidly on the 4th day.

17th. Aged 34, her 2nd pregnancy; admitted in labour, with peritoneal symptoms upon her; her labour was of very short duration, and there was no *post partum* hæmorrhage; but the peritonitis increased, and she sank on her 5th day.

18th. Aged 25, primipara; very delicate-looking and anxious; was confined after a natural labour of 14 hours duration. Child, a boy, weighed 7 lb. 8 oz., was born with congenital deficiency of right forearm and hand, regular intra-uterine amputation having taken place; this seemed to distress her very much. Ascertained also that she had been *seduced*, but got married 3 weeks before; she fell into a state of collapse, and died on her 4th day; peritonitis developing 24 hours before death.

19th. Aged 19, primipara, *seduced*; admitted very feverish, with headache, pain in back, rigors; pulse 120; in strong labour; we, however, were eventually obliged to deliver her with the forceps; no *post partum* hæmorrhage; peritoneal symptoms set in at once, and she died on the 3rd day.

20th. Aged 27, primipara, *seduced*; fell into low spirits and bad health, not alone from distress of mind, but from ill-treatment; her labour was natural and of short duration; we tried to cheer her, and quiet her anxiety; however, peritoneal symptoms set in within 40 hours, and she died on her 6th day.

21st. Aged 23, 2nd pregnancy; admitted in a very delicate state of health, from which she has been suffering all through her pregnancy; her labour was natural and of only 3 hours duration; complained of pain within an hour; became feverish; peritonitis rapidly developed itself, and she died on her 4th day.

22nd. Aged 28, primipara, *seduced*; fretting; her labour was tedious;

had to be delivered with the perforator and cephalotribe, owing to narrowing of the antero-posterior diameter of the brim; there was no *post partum* hæmorrhage; following day, peritoneal symptoms developed themselves; fever increased, thermometer rising to 104; she sank on her 4th day.

23rd. Aged 30, primipara, *seduced*; fretting; admitted from Bray, with pains on her. On examination her tongue was found dry; skin hot; feverish; her labour was tedious, and she had to be delivered with the forceps, her child was alive; there was no *post partum* hæmorrhage. She fell into a low, desponding state, from which she could not be cheered; her feverish symptoms increased; peritonitis showed itself in 12 hours, and she died on her 6th day.

24th. Aged 23, primipara, *seduced*; admitted, having had convulsions, but was conscious at the time of coming in; her labour proceeded naturally, and was of short duration. She, however, became very fretful, silent, fell into a state of collapse, and died in 35 hours.

25th. Aged 22, primipara; admitted in very delicate health, from which she has been suffering for the last 3 months; she was confined after a natural labour, of short duration; she became feverish; peritonitis set in within 28 hours, and she died on the 9th day.

26th. Aged 22, primipara; admitted in very delicate health, complaining of cough and great weakness, with night sweats; symptoms of tubercle present; was confined naturally. Under treatment she seemed for a while to improve—so much so, that she got out of bed, without our knowledge, on the 7th day; the day after she had great tenderness of right elbow, hip, and knee; diaphoresis increased, and she sank rapidly in 30 hours.

27th. Aged 35, 8th pregnancy, a midwife; admitted in labour; it was remarked at the time that she presented a dusky hue over her face and neck; she complained also of pains in her back and knees. Her labour was natural, of 5 hours duration. Roseolar rash appeared on the 3rd day, scarlatina being fully developed on the day following; became extremely weak, strength seemed to diminish rapidly, and she died on the 5th day.

Thus it appears that, out of the total of 27 deaths, 9 of these were cases of seduction, 5 of very great distress of mind, 6 were admitted in an extremely delicate or dangerous state, 3 others were primipara, some of them suspected of being unmarried, and 4 should have died, irrespective of their being confined in an hospital.

ABORTIONS.

There were 40 cases where the ovum or embryo was expelled before the end of the sixth month. In 18 it took place within 3 months, in 1 of which it was her 1st pregnancy, in 5 their 2nd, in 2 their 3rd, in 2 their 4th, in 2 their 7th, in 1 her 8th, in 3 their 10th, in 1 her 11th, and

in 1 her 13th pregnancy. In 3 the ovum was expelled in six weeks, in 8 in the second month, and in 7 in the third month.

Twelve of these were the result of accidents—viz., 1 from a beating, 3 from falls, and in 8 from fright. In 3 it occurred from over-exertion, 1 from a heavy cold, 1 from retroflexion of the uterus, and 1 was a fleshy mole (third month). All the mothers recovered.

In 22 instances the embryo was expelled from the fourth to the sixth month; 3 were primiparæ. In 4 it was their 2nd pregnancy, in 6 their 3rd, in 1 her 4th, in 4 their 5th, in 1 her 6th, in 1 her 7th, in 1 her 8th, and in 1 her 14th pregnancy. In the 4 which occurred in the fourth month, all were male. In the 5 which took place in the fifth month, 3 were boys, 1 of which lived for five minutes, the other 2 were putrid; 2 were girls, 1 was dead, the other was putrid. In the 13 which took place in the sixth month, 5 were boys, 2 were alive at birth, but died—1 in four hours, the other in seven hours. Of the remaining 3, 1 was dead, 2 were putrid; 9 were girls, there being twins in 1 case; 4 were alive at birth, 1 died in five minutes, and 1 in three hours. The twins, 1 died in one hour, and the 2nd in three hours; 2 were dead, and 3 were putrid.

The cause—In 5 instances it could not be accounted for.

In 4 „ it was attributed to general delicacy.

In 1 instance it was attributed to fretting.

In 2 instances it was attributed to syphilis.

In 4 „ „ to over-exertion.

In 1 instance it was attributed to heavy cold.

In 4 instances it was attributed to accidents—viz., 1 a fall, 2 a beating, 1 a fright.

In 1 labour was induced.

22

All the mothers recovered.

PREMATURE BIRTHS.

There were 31 cases where labour set in at the seventh month, 10 of which were primiparæ. Of the 10 primiparæ, 4 gave birth to boys, 3 being alive, 1 of which died; 2 were twins, putrid; 6 were girls, 4 being alive, 2 of which died; 1 was dead and 1 putrid. 21 were pluriparæ, 1 of which was a twin case, the children were of both sexes; 12 gave birth to boys, 6 being alive, 5 of which lived; 4 were dead and 2 putrid; 10 were girls, 5 being alive, 1 of which lived; 1 was dead and 4 putrid.

All the mothers recovered but one, her 5th pregnancy, who died of pneumonia.

In 17 cases labour set in in the eighth month, 3 of which were primi-

paræ. Of these latter, 1 gave birth to a boy, alive at birth, but died in 62 hours; 2 gave birth to girls, both alive at birth, 1 lived, 1 died in 12 hours. Of the 14 pluriparæ, 7 gave birth to boys, 6 of which were alive at birth, 2 died, 1 in 28 hours; 1 the 4th day; 1 was dead born; 7 gave birth to girls, 4 of whom lived, 3 died.

Sixteen mothers recovered, and 1 died of pyæmia, her 5th pregnancy.

PRÆTERNATURAL PRESENTATIONS.

The upper extremity was the presenting part in 2 instances. In 1, her 6th pregnancy, the child (a boy) presented with the elbow, complicated with prolapse of the funis. Version was performed under chloroform; the child lived, and the mother recovered. The 2nd, a primipara, admitted from another institution; the waters had escaped for 14 hours, and on examination a hand was found in the vagina. She was put under chloroform, and delivery was effected by version with great difficulty, owing to the uterus being so firmly contracted round the child (a boy, weight 7 lbs. 2 oz.); it was alive when born, but died in about five minutes.

The mother was labouring under pleuritis, with pneumonia, on admission. She was sent on her 10th day to another hospital.

Lower Extremity.—In 37 cases, the child presented—in 26 instances with the breech, and in 11 with the foot. In the 26, where the breech was the presenting part, 9 were primiparæ; 7 gave birth to male children, 2 female, all of whom lived. One mother died of scarlatina.

Of the 17 pluriparous cases, 9 gave birth to boys, 5 of which lived, and 4 were putrid—viz., there were 9 girls born, 7 of whom were alive at birth, but 2 died; 1 of these was the 2nd of triplets; 2 were putrid. All the mothers recovered.

In the 11 instances where the child presented with the foot, 2 were primiparæ; 1 gave birth to a boy, which lived; 1 gave birth to a girl, which died in 25 hours. This child was greatly deformed, having congenital shortening of both arms and legs. Of the 9 pluriparæ, 6 gave birth to boys, 5 of whom lived; 1 was dead born; it was a case of prolapse of funis, where the head had to be delivered with the forceps; 4 gave birth to girls, 2 of which lived; 1 was putrid, 6 months. There was one case of twins, where both children presented with the feet; this will account for there being 10 children; they were a boy and girl, they both lived. All the mothers recovered.

FORCEPS.

There were 113 cases where we considered it advisable to deliver with the forceps, and as the Table will show, 83 of these were primiparæ, or more than two-thirds; giving birth to 53 boys, 51 of whom lived; 2 were dead at birth; 30 were girls, 27 of whom lived; 1 was dead at birth.

75 mothers recovered; 8 died, 6 being cases of seduction, fretting; 2 cases of peritonitis; 30 were pluriparae, in which 16 boys were delivered, 14 of whom lived; 2 were dead born, and 14 girls, all of whom lived. 28 mothers recovered; 2 died, 1 of pleuritis, 1 of fungoid tumour of uterus, with fatty heart. Of the total of 69 male children born, 65 being alive at birth, 4 of whom died; 4 were dead born; thus 61 males were saved. And of 44 female children born; 43 were alive at birth, 2 of whom died, and 1 was dead born; thus 41 female children were saved, making a total of 102 children saved, who, in all probability, would have been lost if left to the natural efforts. 103 mothers recovered, and 10 died.

TABLE 3.—*Forceps.*

	Sex of Child		Alive		Dead		Lived		Died		Result to Mother		Innupta; Fretting	Pleuritis	Peritonitis	Fatty Heart; Fungoid Tumour of Uterus
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Recovd.	Died				
Primiparae. 83	53	30	51	29	2	1	47	27	4	2	75	8	6	—	2	—
Pluriparae, 30	16	14	14	14	2	—	14	14	—	—	28	2	—	1	1	—
Total, . 113	69	44	65	43	4	1	61	41	4	2	103	10	6	1	3	—

The forceps which we at first used were of the straight form, both long and short; but finding on frequent occasions that they slipped, particularly where the head was above the brim, or when it was at all tightly wedged high up in the pelvis, and were consequently inefficient, we were obliged to have recourse, about five years since, to the double-curved variety of Barnes; and we have great satisfaction in saying that the more we employ them the more reason we have to be perfectly satisfied with them, inasmuch as we have proved them to be an instrument both safe, easy in their application, and most efficient in their powers of extraction, and at the same time not compressing the child's head to any injurious extent (which will be seen by referring to the Table of cases recorded), and perfectly available whether the head may be above the brim, in the brim, or in the cavity—in fact, we see no necessity for using any other, as they can be introduced by one experienced in their application as easily, if not more so, than the straight variety in all cases. And, as a proof of their not producing any injurious effects on the child, instances are given in our former Reports where it has been born alive and lived, although the force used to draw the head through the contracted strait was enormous, and the length of time occupied by the operation was very great. One case may be mentioned, as serving for an example, which occurred in a woman in her ninth pregnancy, where there was an exostosis of the right sacro-iliac

synchondrosis preventing the head from entering the brim, and where it took three-quarters of an hour to extract the child, whose head when born presented a depression occupying the prominence of the left parietal bone of over 3 inches long and $1\frac{3}{4}$ inches broad and, at least, $\frac{1}{4}$ inch deep; yet that child, a boy, weighing 7 lbs. 12 oz., lived and was carried out by its mother quite lively and well on her being discharged on the 8th day.

Now if we deduct the 40 abortions from the total number of deliveries recorded as having taken place in the year, it will leave 1,025, which, divided by 113, the number of times the forceps were used in that period, it will be seen that they were had recourse to once in about every 9 $\frac{1}{4}$ cases. This may appear to many as a very large proportion, and some may cavil at the system we have adopted, but the further we pursue the practice the more we see the advantages arising from it in preventing serious consequences to both mother and child—the mother being saved from lengthened agony, prolonged too often to a serious extent, from the effects of exhaustion rendering her liable to inflammation of the soft parts, with all its direful results, such as sloughing, and its consequences—fistula, pyæmia, peritonitis, &c.; and the child's life preserved by not allowing it to encounter too long the danger resulting from the protracted pressure, both by the compressing of the head in the pelvis, and the evil results of the contraction of the uterus around the child and the placenta, thus cutting off the supply so essential to its foetal existence.

In reply to the objection that has been raised by some—viz., that the forceps is a dangerous instrument—and as a proof to the contrary, I may mention that, of the 752 cases that have been delivered within the last seven years, in no one instance was injury inflicted by the instrument on the soft parts of the mother. In fact, by using proper precaution in their application—by bearing in mind the different axes of the pelvis, and the condition of the passage and cervix uteri, and by introducing the blades with the greatest gentleness in accordance with the direction of these axes, and by taking every care to avoid catching the points of the blades in the cervix, particularly when it is not quite fully obliterated, and when they are applied by making the traction in the proper direction—i.e., in accordance with the amount of descent at which the head may have been arrested in the pelvis, and by continuing it in the axis of the part of the pelvis your extractive force has brought it to, which latter precaution should be particularly attended to, and as soon as the head has been brought sufficiently far to the outlet by withdrawing the blades as our invariable practice is and has always been, and completing the delivery in the ordinary way—there cannot be, in the hands of the skilful practitioner, any injury produced. And no doubt whatever exists that such practice tends to the more favourable convalescence of the patient.

Of the 113 cases delivered with the forceps within the year, there were 33 instances where we considered it necessary to effect delivery before the os uteri was fully dilated; and by looking at the Table (No. 4) it will be seen that in 10 instances the os was merely $\frac{2}{3}$ ths dilated; 8 being primiparæ and 2 pluriparæ. In the 8 primiparæ 5 boys were delivered, all of whom lived, and 3 girls, 2 of which lived; 1 was dead at birth.

The cause of interference was, in the great majority of instances, from early rupture of the membranes.

The position of the child in the pelvis—in 3 the head was above the brim; in 3 it was in the brim; in 2 it was in the cavity. 7 mothers recovered; 1 died, being *seduced*, and fretting greatly.

In the 2 pluriparæ 1 boy was delivered, dead at birth; it was in a case of laryngitis, where tracheotomy had to be performed and the labour induced at the 7th month: 1 girl was delivered, which lived.

The cause of interference was in 1, as mentioned, and in 1 from deformity.

The position of the child in the pelvis—in 1 it was above the brim, and 1 in the brim. All the mothers recovered.

In 12 cases, where the os was only $\frac{2}{3}$ ths dilated, there were 7 primiparæ, where 3 boys were delivered, 2 of which lived; 1 was dead at birth; and 4 girls, 3 of which lived; 1 died in 12 hours.

The cause of interference was, in 3 instances, from early rupture of the membranes; 3 where the head pressed so excessively on the soft parts as to endanger them; 1 was owing to extreme exhaustion.

The position of the child in the pelvis—in 1 was above the brim; in 3 was in the brim; and in 3 in the cavity of the pelvis. All the mothers recovered.

There were 5 pluriparæ, where 3 boys were delivered, all being alive at birth, 1 of which (premature—6 months) died in 10 minutes, and 2 girls, both of whom lived.

The cause of interference was—in 1 from early rupture of the membranes; 2 from undue pressure on the cervix; 1 from extreme exhaustion; and 1 phthisis.

The position of the child in the pelvis—in 3 it was in the brim; in 2 it was in the cavity of the pelvis. All the mothers recovered.

In 11 instances, where the os was $\frac{2}{3}$ ths dilated, there were 7 primiparæ, where 6 boys and 1 girl were delivered, all of which lived.

The cause of interference in 3 instances was from early rupture of the membranes; in 4 where the cervix was injuriously pressed upon.

The position of the child in the pelvis—in 1 it was above the brim, in 1 in the brim, and in 5 in the cavity. All the mothers recovered.

There were 4 pluriparæ, where 3 boys and 1 girl were delivered, all of which lived.

TABLE 4.—*Forceps applied before the Os was fully dilated.*

WHERE THE OS WAS $\frac{1}{2}$ DILATED.—PRIMIPARÆ.																			
No.	Date	Age	CHILD				Cause of Interference							Amount of advance of head			Result to Mother		
			Sex		Weight	Lived	Died	Early rupture of membrane	Deformity, Perforation	Laryngitis	Cervix pressed on by head	Extreme Relaxation	Phobias	Above brim	In the brim	In the cavity	Day of Discharge	Day of Death	
			M.	F.															
1	Nov. 8	18	-	L.	lbs. 7 8	L.	-	Hæ.	20	-	-	-	-	-	1	-	-	24	-
2	" 18	22	-	D.	6 12	-	-	-	36	-	-	-	-	-	-	1	-	8	-
3	Dec. 21	27	L.	-	8 4	L.	-	-	46	-	-	-	-	-	-	1	-	8	-
4	Jan. 26	30	L.	-	8 6	L.	-	-	14	-	-	-	-	-	-	1	-	15	-
5	Feb. 23	24	L.	-	7 15	L.	-	-	30	-	-	-	-	-	1	-	-	6	-
6	Mar. 10	21	-	L.	6 0	L.	-	-	40	-	-	-	-	-	-	-	1	-	6
7	May 27	29	L.	-	5 12	L.	-	-	96	-	-	-	-	-	-	-	1	9	-
8	June 4	22	L.	-	9 8	L.	-	-	14	-	-	-	-	-	1	-	-	19	-
Total			8	5	3		7	-	8	-	-	-	-	-	3	3	2	7	1
PLURIPARÆ.																			
1	Sept. 7	27	D.	-	6 12	-	-	-	-	1	-	-	-	-	-	1	-	19	-
2	Oct. 10	28	-	L.	6 2	L.	-	-	1	-	-	-	-	-	1	-	-	7	-
Total			2	1	1		1	-	1	1	-	-	-	-	1	1	-	2	-
WHERE THE OS WAS $\frac{1}{2}$ DILATED.—PRIMIPARÆ.																			
1	Nov. 10	29	L.	-	8 4	L.	-	18	-	-	-	-	-	-	-	1	-	7	-
2	" 17	18	-	L.	7 4	L.	-	-	-	-	1	-	-	-	-	1	-	7	-
3	Dec. 20	25	-	L.	8 0	L.	-	-	-	-	1	-	-	-	1	-	-	10	-
4	" 22	27	-	L.	7 12	L.	-	24	-	-	-	-	-	-	-	-	-	13	-
5	Jan. 14	21	D.	-	8 10	-	h.	-	-	-	1	-	-	-	-	1	-	11	-
6	Feb. 3	22	-	L.	4 0	-	12	8	-	-	-	-	-	-	-	-	1	8	-
7	Aug. 30	16	L.	-	6 0	L.	-	-	-	-	-	1	-	-	-	-	1	8	-
Total			7	3	4		5	1	3	-	3	1	-	-	1	3	3	7	-
PLURIPARÆ.																			
1	Nov. 30	34	L.	-	7 10	L.	-	-	-	-	1	-	-	-	-	1	-	9	-
2	Dec. 25	21	-	L.	7 6	L.	-	-	-	-	1	-	-	-	-	1	-	7	-
3	Jan. 28	25	L.	-	7 0	L.	-	16	-	-	-	-	-	-	-	-	1	9	-
4	April 8	24	-	L.	9 0	L.	m.	-	-	-	1	-	-	-	-	1	-	6	-
5	June 25	25	L.	-	2 12	-	10	-	-	-	-	-	-	1	-	-	1	8	-
Total			5	3	2		4	1	1	-	2	1	1	-	3	2	5	-	-
WHERE THE OS WAS $\frac{1}{2}$ DILATED.—PRIMIPARÆ.																			
1	Dec. 11	20	L.	-	7 8	L.	-	-	-	-	1	-	-	-	1	-	-	8	-
2	Jan. 17	22	L.	-	8 10	L.	-	46	-	-	-	-	-	-	-	-	1	8	-
3	Feb. 6	26	L.	-	7 2	L.	-	-	-	-	1	-	-	-	-	-	1	7	-
4	" 17	30	L.	-	7 6	L.	-	-	-	-	1	-	-	-	-	1	-	10	-
5	April 2	20	L.	-	7 6	L.	-	86	-	-	-	-	-	-	-	-	1	8	-
6	" 5	20	L.	-	7 1	L.	-	-	-	-	1	-	-	-	-	-	1	5	-
7	Aug. 23	29	-	L.	7 0	L.	-	24	-	-	-	-	-	-	-	-	1	8	-
Total			7	6	1		7	-	3	-	4	-	-	-	1	1	5	7	-
PLURIPARÆ.																			
1	Dec. 2	29	L.	-	8 0	L.	-	120	-	-	-	-	-	-	-	-	1	7	-
2	" 20	28	L.	-	7 4	L.	-	-	-	-	1	-	-	-	-	-	1	5	-
3	April 2	20	-	L.	8 8	L.	-	38	-	-	-	-	-	-	-	-	1	8	-
4	May 6	32	L.	-	8 10	L.	-	-	-	-	1	-	-	-	-	1	-	9	-
Total			4	3	1		4	-	2	-	2	-	-	-	-	1	3	4	-
TOTAL			33	20	13		28	2	117	2	1	11	2	1	9	12	13	32	1

TABLE 5.—Cases where the Forceps were used in the First Stage of Labour.

From Nov. 6 to	No. of Pregnancy		CHILD								Cause of Interference										Degree of dilatation of os uteri at time of operation				Amount of advance of head to when the forceps were applied				Result to Mother			
			Sex				Lived		Died		Early rupture of the membranes	Cervix pressed on by head	Placenta previa	Accidental laceration	Deformity	Prolapse of funis	Bronchitis	Laryngitis	Pneumonia	Convulsions											Extreme nervousness, exhaustion	Pendulous belly
			M.		F.		M.		F.																							
			1st	Subst.	M.	F.	M.	F.	M.	F.																						
Dec., 1871	24	16	8	9	15	6	7	2	3	1	5			9	7	-	-	-	-	-	-	-	-	14	10	1	10	13	22	2		
Nov., 1872	34	26	8	21	13	16	10	-	2	5	1			22	8	-	-	-	-	-	-	-	-	10	20	4	9	16	9	31	3	
Nov., 1873	36	24	12	19	17	16	17	-	-	3	-			32	-	-	2	-	-	-	-	-	-	11	22	3	2	14	20	34	2	
Nov., 1874	42	34	8	26	16	21	13	2	2	3	1			34	6	1	-	1	-	-	-	-	-	25	12	5	11	17	14	40	2	
Nov., 1875	33	23	11	21	12	18	10	1	1	2	1			16	13	-	-	-	-	1	1	-	2	10	12	11	6	12	15	32	1	
	169	122	47	96	73	77	57	5	8	14	8			113	34	1	2	2	4	1	1	1	6	56	80	33	29	69	71	159	10	

The cause of interference—in 2 it was from early rupture of the membranes, and in 2 where the cervix was injuriously pressed upon.

The position of the child in the pelvis—in 1 it was in the brim, and in 3 it was in the cavity. All the mothers recovered.

Thus it will be seen that 28 children lived, 3 were dead born, and 2 died, 1 being premature. 32 mothers recovered, and 1 died, being innupta, and fretting greatly. This, if I may be allowed to say, is a corroborative proof of the safety of the measure we have adopted; for, in summing up the whole of the cases recorded during the period in which this practice has been resorted to, on looking at the annexed Table, we find that the number of deliveries amounted to 169, 122 being primiparæ and 47 pluriparæ.

96 male children were delivered, 77 of which lived, 5 died, and 14 were dead at birth.

73 female children were delivered, 57 of which lived, 8 died, and 8 were dead born.

In 56 instances the os uteri was only $\frac{3}{4}$ ths dilated.

In 80 " " " $\frac{3}{4}$ ths "

In 33 " " " $\frac{3}{4}$ ths "

In 29 instances the head was above the brim.

In 69 " " in the brim.

In 71 " " " cavity.

159 mothers recovered, 10 died; and in these cases it was clearly shown by *post mortem* examination that no injury was done to the soft parts.

In advising the adoption of this, which to those who, objecting to the measure, may appear bold practice, we beg to say that we have been induced to adopt it, by finding from experience the great danger arising in certain cases from the old rule—viz., that of never attempting to apply the forceps until the os was fully dilated.

Now, although far from encouraging or inculcating "meddlesome midwifery," as it has been termed, and no doubt in some instances not without reason, as this practice should never be adopted merely in order to save our own time, nor should it be attempted when the os uteri is rigid; in such cases the proper means should be taken to overcome this state, and it should alone be had recourse to when the life of the mother, or that of her offspring is in jeopardy. The more we see of early interference, and the benefits arising from it, the more we are induced to persevere in it. It has been insinuated that it is a most dangerous practice, and therefore it would be wrong to inculcate it to the general practitioner; but although no doubt it would be so in the hands of a careless or unskilful person, should that be a reason, may I ask, why the skilful obstetrician should not adopt a measure attended in his hands with perfect safety, by which the many hours of suffering

agony of the mother is spared, and the life of her offspring preserved, which, under the peculiar circumstances of the case, would otherwise be endangered, if not altogether lost. It might as well be said—You should not attempt to take up the subclavian, tie the external iliac, perform lithotomy, or any other of the operations in surgery, because, forsooth, such would be dangerous or unjustifiable in the hands of the unskilful. We have only to add that it has been, so far as our experience goes, the means of saving many lives, both of mother and child, and therefore we have every reason to consider ourselves not alone justified in the continuance of it, but in also recommending its practice to others. At the same time, while doing so, we warn all, as we have always done the student in the class-room, of the dangers to be avoided in using the instrument, not only in the 1st stage of labour, but in every case, even although the os may be fully dilated, and of the absolute necessity there exists of using the greatest caution and gentleness in the introduction of the blades, in their application, and, when adjusted, in the mode of extraction.

CRANIOTOMY.

We had to lessen the child's head in 5 instances before delivery could be effected, 3 of these being primiparæ, the 1st of which, aged 23, was a brow presentation, besides which there was a projection of the promontory of the sacrum, and flattening of the horizontal ramus of the pubis. Where all attempts at altering the position of the head or delivering with the forceps failed, we were obliged at length to reduce the size of the head, before delivery could be effected with the crotchet, of a boy 6 lbs. 2 oz. in weight. The mother sank, and died in 31 hours. On *post mortem* examination there was discovered extensive disease of the kidneys, particularly of the right side.

The 2nd, aged 34, was admitted, having been 72 hours in labour, under the care of a practitioner. On examination the head was found arrested at the brim, owing to contraction in its antero-posterior diameter. All attempts with the forceps failing, we were obliged to perforate and employ the cephalotribe before delivery could be effected. The child, a female, weighed 6 lbs. Mother recovered.

The 3rd, aged 27, was 31 hours in labour, the head being arrested at the brim from flattening of the horizontal ramus of the pubis, thus narrowing the antero-posterior diameter. The forceps were tried, but ineffectually, so we were at length obliged to lessen the head, and to deliver with the cephalotribe. The child, a girl, weighed 6 lbs. 13 oz. Mother recovered.

Two were pluriparæ. The 1st, aged 27, her 2nd pregnancy; the delay in this case arose from rigidity of the soft parts in the 1st instance, but the head was arrested at the brim, owing to antero-posterior narrowing

of the upper strait, as well as its being in the 3rd position. She having been 30 hours in labour, and showing symptoms of exhaustion, the forceps were applied, but all efforts to extract failing, we were obliged to lessen the head, and deliver with the cephalotribe. Child, a boy, 6 lbs. 11 oz. Mother recovered.

The 2nd, aged 24, her 3rd pregnancy, was 39 hours in labour, the delay being caused by a projection of the promontory of the sacrum, and flattening of the curve of the left ilio-pectineal border. The forceps were tried in vain; and at length we were obliged to lessen the head, and effect delivery with the crotchet. The child, a boy, weighed 6 lbs. 6 oz. The mother recovered.

We are firmly convinced that in each of these 5 cases, from the length of time their labour lasted, and the amount of compression the child's head underwent before the application of the forceps, that they were dead before we attempted to perforate; and in the case where the mother died, there could not be a more convincing proof of the innocuousness of the forceps, for though the most extraordinary force was used in our efforts to extract the head, we found, on *post mortem* examination, that the soft parts were perfectly free even from an abrasion.

VERSION.

Version was performed in 4 instances, 1 being a primipara. In this case the hand presented, and the waters had escaped for 14 hours before we had an opportunity of examining her. She was put under chloroform, and delivery effected of a boy, weight 7 lb. 2 oz., which lived 5 minutes. The operation was performed with great difficulty, owing to the length of time the waters had escaped, and the strong contraction of the uterus round the body of the child. The mother recovered.

Three were pluriparæ; the 1st where the elbow presented, with prolapse of the funis. The child, a boy, weighed 7 lb., lived. The 2nd a case of twins; the 1st child was delivered naturally, having presented with the head; it was a boy, weight 5 lb. 14 oz.; 2nd presented also with the head, was delivered by turning; it was a girl, weight 5 lb. 12 oz.; both lived. The 3rd, aged 34, a case of placenta prævia, partial; her 9th pregnancy. The child, a girl, alive at birth, weight 5 lb. 8 oz., died in 5 minutes. All but the twin case were delivered under chloroform; there was no *post partum* hæmorrhage in any, and all the mothers recovered.

LABOUR INDUCED.

There were 2 cases where we induced labour. The 1st, a case, aged 27, her 6th pregnancy, was admitted late in the evening, in a state of great suffering from acute laryngitis, with intense dyspnœa, in her 7th month of pregnancy, but not in labour. At so late an hour as that at which she

was brought in we could not send her away, so we adopted the usual remedies with some relief; but early the following morning she was seized with a spasm, amounting to suffocation, which compelled us to at once open the trachea, when, after some time, she revived. In 5 hours after, when she had sufficiently recovered from the effects of the operation, we considered it prudent to induce labour, which was accordingly done, and delivery effected with the forceps. The child, a boy, weight 6 lb. 12 oz., was dead. Mother gradually got sufficiently well, so that in 20 days we were able to remove her to the Whitworth Hospital, as she had tuberculosis.

The 2nd, aged 27, her 3rd pregnancy, had angular curvature of the last 2 lumbar vertebræ, with a twisting backwards of the base of the sacrum, and a tilting forwards of the apex, the result of a fall on her back from a swing 17 years previous, and narrowing of the outlet to $2\frac{1}{2}$ inches in its antero-posterior diameter. Labour was induced by the flexible catheter; child, a female, was dead; mother, a very delicate, ill-fed woman, slow in her convalescence, was sent to the Whitworth Hospital, having a chronic gluteal abscess.

TWINS AND TRIPLETS.

There were 11 twin cases, 2 of which were primiparæ; both gave birth to boys; in 1 they were premature at the 7th month; the children were putrid; in the other both children lived; *all presented naturally*, and both the mothers recovered.

9 were pluriparæ; 2 of these gave birth in each case to boys, all of which lived; in the 1st case both presented with the head; in the 2nd case the 1st was a head, the other a footling.

2 gave birth in each case to girls; in the 1st both presented naturally and lived; in the other the 1st child presented with the head, the 2nd with the foot; both died in 1 hour, being premature.

In 5 instances a boy and girl were born; in 4 of these both children presented with the head; in 1 case the children, being premature, died; all the others lived. In 1 both children presented with the foot, and lived. All the mothers recovered.

There was 1 case of triplets, her 3rd pregnancy; these were all females, weighing respectively 3 lbs. 3 ozs., 2 lbs. 11 ozs., and 3 lbs.; the 1st presented with the head, the 2nd by the breech, and the 3rd was also breech, and expelled in the membrane; the placenta was single; the 2 last children died—1 in 24 hours, the other in 38 hours; mother made a satisfactory recovery, and went out convalescent, with the surviving child, on the 8th day.

ACCIDENTAL HÆMORRHAGE.

There were 11 cases where this complication occurred.

1, a primipara, aged 20, admitted in great distress of mind, with

headache, foul tongue, pulse quick; "had not slept for a month;" the membranes were ruptured; the hæmorrhage ceased; the child, a boy, weighed 6 lbs. 8 ozs., was born by the natural efforts, after a labour of 20 hours' duration, 8 hours of which occupied the 2nd stage; the placenta was expelled in 5 minutes; no *post partum* hæmorrhage; the child lived 21 hours; the mother showed symptoms of peritonitis in 11 hours after labour, and died on the 7th day.

10 pluriparæ, giving birth to 6 boys, 5 of which lived, 1 was dead at birth; and 4 girls, 3 of which lived, 1 was dead at birth; 1 was delivered by the forceps; the remaining 9 by the natural efforts. All the mothers recovered.

The cause in 3 instances was from over-exertion; 1 from extreme delicacy; 1 laryngitis; and in 6 it could not be satisfactorily ascertained.

PLACENTA PRÆVIA.

We had 2 cases of unavoidable hæmorrhage, both in pluriparæ. 1, her 2nd child, a case of complete implantation, in which, when the os was only $\frac{3}{4}$ ths dilated, we were enabled to pass the hand, and deliver by the foot, of a girl, weight 4 lb. 9 oz., which lived; the 2nd, her 9th child, a case of partial placenta prævia, we were also able, when the os was $\frac{3}{4}$ ths dilated, to pass our hand, and deliver by version a girl, weight 5 lb. 8 oz., which lived only 5 minutes; in this case the hæmorrhage commenced 5 weeks before. Both mothers recovered.

POST PARTUM HÆMORRHAGE.

As the meaning of the term "*post partum* hæmorrhage," in its general signification, is one which mainly depends upon the opinion which different practitioners may form—for what in the opinion of one would be passed over as not entering into the category of hæmorrhage, may be considered by another as being a very serious case—in order, therefore, to come to some more definite idea of what is really meant by *post partum* hæmorrhage, when speaking or writing on the subject, we have adopted the plan, same as in our last Report—viz., of dividing the hæmorrhage in this stage of labour into 3 degrees.

The 1st degree being where a smart dash of blood, or some draining, may occur, owing mayhap to a clot forming in the uterus, often the result of want of proper manipulation, or mal-application of the binder, where the pulse is barely, if at all affected, and merely requiring the pressing off the clot, the application of cold to the vulva and loins, the administration of a dose of ergot, with or without a little wine, and the proper adjustment of the binder, and perhaps, as a safeguard, a pad under it.

The 2nd degree, where the pulse is slightly affected, requiring, besides the above, the injection of cold water into the vagina.

The 3rd degree, where the hæmorrhage, not yielding to the foregoing means, the pulse becomes weak, and symptoms of exhaustion take place, and we are obliged to introduce the hand, or inject some astringent solution, such as that of the perchloride of iron, into the uterus; administer stimulants, nutrition by either the mouth or rectum; or where the patient becomes so low and enfeebled as to oblige us to perform the operation of transfusion.

TABLE 6.—*Post Partum Hæmorrhage.*

Age	No. of Pregnancy		Child, Sex of		Mode of Delivery		Duration of Labour			Degree of Hæmorrhage			Result to Mother		
	1st	Subt.	M.	F.	Natural	Forceps	Chloroform	1st Stage	2nd Stage	3rd Stage	1st Ergot Cold Application	2nd Ergot Cold Injection	3rd Injection of Per. Chl. Ferri	Discharged	Died
								Hrs.	Hrs.	Ms.					
24	1	—	L.	—	N.	—	—	6½	2½	30	E. C.	—	—	7	—
24	1	—	—	L.	N.	—	—	15	1	5	—	—	S. P. C. F.	27	—
23	1	—	L.	—	—	F.	—	16	5	5	—	—	S. P. C. F.	40	—
21	1	—	—	L.	N.	—	—	7½	2	7	E. C.	—	—	8	—
20	1	—	—	L.	N.	—	—	10½	1½	10	E. C.	—	—	8	—
22	1	—	—	L.	N.	—	—	8	2	7	E. C.	—	—	7	—
17	1	—	—	L.	N.	—	—	8½	1½	5	E. C.	—	—	7	—
22	1	—	—	L.	—	F.	C.	12	—	3	—	—	S. P. C. F.	8	—
19	1	—	—	L.	N.	—	—	7½	2½	10	—	E. C. I.	—	15	—
19	1	—	—	L.	N.	—	—	18	2	17	E. C.	—	—	6	—
21	1	—	—	L.	—	F.	C.	18½	½	8	—	E. C. I.	—	19	—
22	1	—	—	L.	N.	—	—	17½	½	10	E. C.	—	—	8	—
20	1	—	L.	—	N.	—	—	23½	½	10	E. C.	—	—	5	—
38	—	7	—	L.	N.	—	—	9½	½	10	E. C.	—	—	8	—
30	—	5	—	L.	N.	—	—	11½	½	7	E. C.	—	—	8	—
33	—	5	—	L.	N.	—	—	11½	½	8	E. C.	—	—	7	—
40	—	13	L.	—	N.	—	—	6½	½	13	E. C.	—	—	7	—
38	—	5	—	L.	N.	—	—	22½	½	10	—	E. C. I.	—	7	—
39	—	8	L.	—	N.	—	—	12	1½	12	E. C.	—	—	4	—
30	—	2	L.	—	—	F.	C.	22	2	11	—	—	S. P. C. F.	—	2½
39	—	7	L.	—	N.	—	—	½	½	4	E. C.	—	—	7	—
36	—	9	L.	—	N.	—	—	3½	½	5	—	E. C. I.	—	7	—
30	—	7	L.	—	N.	—	—	3½	½	10	E. C.	—	—	4	—
35	—	9	L.	—	N.	—	—	2	1	4	E. C.	—	—	8	—
24	—	4	L.	—	N.	—	—	5	3	15	E. C.	—	—	7	—
26	—	2	L.	—	N.	—	—	6½	1½	15	E. C.	—	—	9	—
30	—	3	—	L.	N.	—	—	½	½	20	E. C.	—	—	8	—
25	—	2	L.	—	N.	—	—	5½	½	5	—	—	S. P. C. F.	12	—
35	—	2	D.	—	—	F.	—	3	—	10	—	E. C. I.	—	8	—
26	—	4	—	L.	N.	—	—	9½	½	10	E. C.	—	—	8	—
37	—	5	—	L.	N.	—	—	1½	½	15	E. C.	—	—	13	—
Prim.	13	—	3	10	10	8	2				8	2	3	13	—
Plur.	—	18	11	7	16	2	1				13	3	2	17	1

Now, by referring to the accompanying Table, it will be perceived that we had altogether, including the trivial cases, 31 instances of

post partum hæmorrhage—13 occurring in primiparæ, and 18 in pluriparæ; 8 of the 13 primiparæ were of the 1st degree of hæmorrhage, 2 of the 2nd, and 3 of the 3rd; 13 of the 18 pluriparæ were of the 1st degree, 3 of the 2nd, and 2 of the 3rd degree.

The duration of the second stage of labour in the foregoing cases will be seen by the following Table, as well as the degree of hæmorrhage:—

TABLE 7.

	Second Stage of Labour lasted																												
	Nil	H. M.		H. M.		H. M.		H. M.		H. M.		H. M.		H. M.		H. M.		H. M.		H. M.		H. M.		H. M.					
		0	6	0	10	0	15	0	20	0	30	0	45	1	0	1	3	1	45	2	0	2	30	2	45	3		0	5
1st degree of hæmorrhage - -	-	1	1	1	1	1	7	2	1	2	1	2	1	2	1	-	1	-	-	-	-	-	-	-	-	-	-	-	21
2nd degree of hæmorrhage - -	1	-	2	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	5
3rd degree of hæmorrhage - -	1	-	-	1	-	-	-	-	1	-	-	1	-	-	1	-	-	-	-	-	-	-	-	-	-	1	-	5	
	2	1	3	2	1	8	2	2	2	2	1	3	1	3	1	1	1	1	1	1	1	1	1	1	1	1	1	31	

Thus will be seen that of the 21 of the 1st degree of *post partum* hæmorrhage,

In 1 the second stage lasted $\frac{1}{10}$ of an hour.

" 1 " " $\frac{1}{6}$ "

" 1 " " $\frac{1}{4}$ "

" 1 " " $\frac{1}{3}$ "

" 7 " " $\frac{1}{2}$ "

" 2 " " $\frac{2}{3}$ "

" 1 " " 1 hour.

" 2 " " $1\frac{1}{2}$ "

" 1 " " $1\frac{3}{4}$ "

" 2 " " 2 hours.

" 1 " " $2\frac{1}{4}$ "

" 1 " " 3 "

21

Of the 5 of the 2nd degree of *post partum* hæmorrhage:—

In 1 the second stage was nil.

" 2 " " lasted $\frac{1}{2}$ of an hour.

" 1 " " " $\frac{1}{4}$ "

" 1 " " " $2\frac{3}{4}$ hours.

Of the 5 of the 3rd degree of *post partum* hæmorrhage.

In 1 the second stage was nil.

" 1 " " lasted $\frac{1}{4}$ of an hour.

" 1 " " " 1 hour.

" 1 " " " 2 hours.

" 1 " " " 5 "

The duration of the third stage of labour in these cases was, as the next Table will show—viz., the placenta was expelled in the following number of minutes:—

TABLE 8.

	Minutes in which Placenta was expelled														
	3	4	5	7	8	10	11	12	13	15	17	20	30		
1st degree of hæmorrhage -		2	1	3	1	6	—	1	1	3	1	1	1	21	
2nd degree of hæmorrhage -	—	—	1	—	1	3	—	—	—	—	—	—	—	5	
3rd degree of hæmorrhage -	1	—	3	—	—	—	1	—	—	—	—	—	—	5	
	1	2	5	3	2	9	1	1	1	3	1	1	1	31	

Thus will be seen that of the 21 in the 1st degree of *post partum* hæmorrhage, the placenta was—

In 2 instances expelled in 4 minutes.

" 1 " " 5 "
 " 3 " " 7 "
 " 1 " " 8 "
 " 6 " " 10 "
 " 1 " " 12 "
 " 1 " " 13 "
 " 3 " " 15 "
 " 1 " " 17 "
 " 1 " " 20 "
 " 1 " " 30 "

Of the 5 of the 2nd degree of *post partum* hæmorrhage, the placenta was—

In 1 instance expelled in 5 minutes.

" 1 " " 8 "
 " 3 " " 10 "

And of the 5 of the 3rd degree of *post partum* hæmorrhage, the placenta was—

In 1 instance expelled in 3 minutes.

" 3 " " 5 "
 " 1 " " 11 "

All the mothers recovered, with the exception of 1, her 2nd pregnancy, who was delivered with the forceps under chloroform. The hæmorrhage was of the 3rd degree, but was checked by the injection of the solution of the perchloride of iron. She died 2½ hours after delivery. At *post mortem* examination it was discovered that a large fungoid tumour occupied the body of the uterus, and the heart was in a state of fatty degeneration.

As a proof that, in the great majority of instances, with the one exception, there were no cases of a really serious nature, we may mention that 2 requested to be let out on the 4th day, which was granted

on "the declaration" ^a being signed. All patients leaving before the 8th day, even though convalescent, were obliged to sign this declaration.

Thus, 2 signed the declaration on the 4th day—both were pluriparæ, both of the 1st degree of *post partum* hæmorrhage; 1 signed the declaration on the 5th day, a primipara, 1st degree of *post partum* hæmorrhage; 1 on the 6th, a primipara, 1st degree of *post partum* hæmorrhage; 9 on the 7th, 3 were primiparæ, and all the 1st degree, 6 pluriparæ, 4 being 1st and 2 of the 2nd degree; 10 were discharged well at their own request ^b on the 8th day, 4 were primiparæ, 3 being 1st and 1 of the 3rd degree; 6 pluriparæ, 5 being 1st and 1 of the 2nd degree; 1 was discharged at her own request on the 9th day, a pluripara of the 1st degree; 1 on the 12th, a pluripara of the 3rd degree; 1 on the 13th, a pluripara of the 1st degree; 1 on the 15th, a primipara of the 2nd degree; 1 on the 19th, a primipara of the 2nd degree. This patient's convalescence was delayed in consequence of getting an attack of scarlatina. 1 was discharged at her own request on the 27th day, a primipara of the 3rd degree. This last was a case where the hæmorrhage came on 4½ hours after the placenta was expelled; the blood seemed to flow from the cervix, the uterus being well contracted; her labour had been natural. She eventually made a good recovery. She was a private patient and came from the country, which was mainly the cause of her delay in the house, fearing to undertake a long journey before three weeks had elapsed. 1 was discharged on the 40th day; she was innupta, fretting greatly, extremely nervous, found it very difficult to get her round, but eventually she went out well.

With regard to the question still under discussion—of the tendency that a short 2nd stage may favour *post partum* hæmorrhage—the following Table has been drawn out in order to show, so far as our records of the past year can supply—viz., in 653 cases—the different periods the second stage occupied, from that of *nil*, or where the child was expelled immediately the 2nd stage was completed, up to 1 hour, and the number of cases of hæmorrhage or other symptoms that occurred in each period:—

TABLE 9.

Where the Second Stage was completed within 60 minutes	Minutes									Total	Degree of Hæmorrhage		
	0	5	10	15	20	30	45	60			1st	2nd	3rd
Total { No. of Cases, Hæmorrhage,	39 2	33 1	39 3	107 2	57 1	158 8	109 2	111 2	653 21		— 14	— 4	— 3

^a "The declaration," a printed form stating that the patient goes out of herself, or is taken out by her friends, contrary to the advice of the Master or his assistants, and therefore they are not to be held responsible for any event that may occur.

^b We never discharged patients unless "at their own request."

Thus, in the 1st period, where we may say there was no second stage, or rather it did not occupy more time than the absolute passage of the child, there were 39 deliveries, and 2 cases of *post partum* hæmorrhage, 1 being a primipara, requiring the injection of the solution of the perchloride of iron, and one a pluripara, where *post partum* hæmorrhage was of the 2nd degree.

In the 2nd period, that is, where the 2nd stage occupied only 5 minutes, there were 33 deliveries, out of which there was 1 case, a pluripara of the 1st degree.

In the 3rd period, where the 2nd stage was of 10 minutes' duration, of 39 instances occurred, there were 3 cases of *post partum* hæmorrhage, all of which were pluriparæ, one being of the 1st and two of the 2nd degree.

In the 4th period, where the 2nd stage occupied 15 minutes, out of 107 cases of delivery, there were 2 instances of *post partum* hæmorrhage, one a primipara of the 1st and one a primipara of the 3rd degree.

In the 5th period, where the 2nd stage occupied 20 minutes, there were 57 deliveries, and 1 case of *post partum* hæmorrhage, a pluripara of the 1st degree.

In the 6th period, where the 2nd stage lasted 30 minutes, there were 158 deliveries, out of which there were 8 cases of *post partum* hæmorrhage, 2 primiparæ, 1 being of the 1st degree and 1 of the 2nd; and 6 pluriparæ, all being of the 1st degree of *post partum* hæmorrhage.

In the 7th period, where the 2nd stage lasted 45 minutes, there were 109 deliveries, out of which there were 2 cases of *post partum* hæmorrhage, 1 a primipara and 1 a pluripara, and both of the 1st degree.

In the 8th period, where the 2nd stage lasted 60 minutes, there were 111 deliveries, out of which there were 2 cases of *post partum* hæmorrhage, 1 being a primipara, and the amount of hæmorrhage being of the 3rd degree, the other a pluripara, being of the 1st degree.

Thus, of the 653 cases where the 2nd stage did not last beyond one hour, there were 21 cases of *post partum* hæmorrhage—viz., 14 of the 1st degree, merely requiring the cold wet napkin to the vulva and proper pressure; 4 of the 2nd degree, where it was thought prudent to inject cold water into the vagina; and 3 of the 3rd degree, where it was considered necessary to have recourse to the injection of the solution of the perchloride of iron into the uterus. In fact, as we have observed before, and as may be seen by the Table, *post partum* hæmorrhage may, in the great majority of instances, be avoided by the proper rule of keeping a constant steady pressure over the fundus of the uterus from the moment the child's head is being expelled at the outlet until the expulsion of the placenta and the proper adjustment of the binder, which should be so arranged, with pad if necessary, as to secure the uterus from relaxing.

By observing strictly this rule, you not only avoid the complication, but you favour the completion of the third stage in a very short space of time, as the following Table will show:—

TABLE 10.

		DURATION OF THE THIRD STAGE OF LABOUR.															
		Minutes															
		Siml. 0	5	10	15	20	25	30	35	40	45	50	60	300			
Total	{ No. of Cases, Hæmorrhage,	4 —	344 8	371 14	164 6	60 2	27 —	19 1	11 —	6 —	6 —	1 —	1 —	1 —	1015 31		

Thus you will see that of the 1,015 patients delivered, in 4 the placenta was expelled simultaneously with the child; no hæmorrhage followed. In 344 cases the 3rd stage occupied 5 minutes. There were 8 cases of *post partum* hæmorrhage—3 of the 1st degree, 1 of the 2nd, and 4 of the 3rd degree. In 371 instances the 3rd stage was completed in 10 minutes, after which there were 14 cases of *post partum* hæmorrhage—10 being of the 1st degree, and 4 of the 2nd. In 164 instances the 3rd stage lasted 15 minutes. Out of these, 6 cases of *post partum* hæmorrhage occurred—5 of the 1st degree, and 1 of the 3rd. In 60 instances the placenta was expelled in 20 minutes, followed in 2 cases by *post partum* hæmorrhage, both of the 1st degree. In 27 it was expelled in 25 minutes, and no *post partum* hæmorrhage.

In 19 in 30 minutes, and 1 case of *post partum* hæmorrhage of the 1st degree.

In 11 in 35 minutes; no *post partum* hæmorrhage. In 6 in 40 minutes, and no *post partum* hæmorrhage.

In 6 in 45 minutes; no *post partum* hæmorrhage. In 1 the placenta was allowed to remain for 50 minutes; no *post partum* hæmorrhage. In 1 for 60 minutes; no *post partum* hæmorrhage; and in 1 the child was born at home 5 hours before the mother came to the hospital; 1 where the placenta was removed; no *post partum* hæmorrhage.

Besides, you will perceive that in 903 instances the 3rd stage was completed within 15 minutes, or $\frac{2}{10}$ ths of the whole, and the *post partum* hæmorrhage amounted to 28, or 1 in $32\frac{1}{2}$, 26 being trivial, 21 of the 1st degree, and 5 of the 2nd, and 5 of the 3rd.

RETAINED PLACENTA.

There were 15 instances where the placenta was retained; in 3 instances they were in primiparous patients, 2 from morbid adhesions and 1 from inertia; 1 mother died of peritonitis 6th day: 12 were in

pluriparous patients, 9 being morbidly adherent, 2 from irregular contraction and 1 from inertia. All the mothers recovered.

PROLAPSE OF THE FUNIS.

In 4 instances the labour was complicated with prolapse of the funis, all occurring in pluriparous patients. 1 was admitted with the elbow presenting, along with the prolapse, the os being sufficiently dilated; she was put under chloroform, and delivered by version; boy, alive, 7 lbs. weight, and lived.

The 2nd—on examination the funis was found prolapsed, no pulsation, and cold, so labour was allowed to proceed naturally.

The 3rd, her 2nd child; on examination the foot was found presenting, along with the prolapsed funis. In this case there was great difficulty before the head could be brought down, and not before the forceps had to be employed; the child was dead.

The 4th, her 10th pregnancy, was admitted with the hand and funis protruding at the vulva; no pulsation in the cord; on a vaginal examination a foot could be found, which eventually came down, the hand receding; the child was delivered by half breech (a boy, 7 lbs. 6 ozs., was dead). All the mothers recovered.

CONVULSIONS.

There were 4 cases of eclampsia during the year, all primiparæ.

The 1st was in a patient, aged 23; her labour lasted 4 hours, the 2nd stage occupying $1\frac{1}{2}$ hours, the 3rd 5 minutes; the child, a boy, alive, weighed 5 lbs. 14 ozs., was born by the natural efforts, and lived; no *post partum* hæmorrhage; there were no symptoms whatever to indicate the coming event; however, in 12 hours after delivery she was seized with a fit of convulsions; a turpentine and assafœtida enema was at once administered; she was put under the influence of chloroform, and as soon as possible bromide of potassium, combined with chloral, was given every 3 hours; she had no return of the fits; made a good recovery.

The 2nd, aged 19, innupta, was admitted, having had convulsions, but the number could not be ascertained; so far as we could learn, she had been in labour 18 hours; the os was, on examination, found nearly fully dilated; there was some œdema of the feet and ankles, none of the face or upper extremities; an enema of turpentine and assafœtida was administered; she was put under the influence of chloroform, and delivery effected with the forceps, of a boy, weighing 8 lbs. 8 ozs., was born, which lived; she was treated with chloral and bromide of potassium; there was no return of the fits; she made a good recovery, and was discharged on the 14th day.

The 3rd, aged 23, also innupta, a delicate anæmic-looking creature, was admitted, having had a fit of convulsions; was conscious on admission,

labour went on naturally, and the child was expelled easily within 6 hours; the placenta was expelled in 5 minutes; no *post partum* hæmorrhage; soon after which she fell into a state of stupor, every remedy failed, and she died in 35 hours.

The 4th, aged 27, a primipara; her labour had to be completed with the forceps, owing to inertia; there was no *post partum* hæmorrhage; went on favourably till the 4th day, when she was seized with a fit of eclampsia; the usual treatment was had recourse to; she had no return of the fits, and was discharged well.

MANIA.

We had 4 cases where mania made its appearance in the course of the patients' convalescence.

The 1st, aged 31, 2nd pregnancy; labour natural; child male, 9 lbs. 6 ozs.; attacked with mania on the 7th day without any apparent cause; under treatment she progressed favourably, and was allowed out, her friends signing the declaration.

The 2nd, aged 29, 2nd pregnancy; she was confined of a boy, 6 lbs. 4 ozs., after a natural labour; showed symptoms of mania the day following; ascertained that she had been in a lunatic asylum 8 years before; she was taken out on the 8th day, "declaration" being signed.

The 3rd, aged 28, a primipara, was confined of a boy, a breech presentation, alive, weighed 7 lbs. 4 ozs., after a tedious labour of 50 hours' duration, $2\frac{1}{2}$ of which occupied the 2nd stage; the placenta was expelled in 15 minutes, and she was going on favourably till the 4th day, when she was attacked with mania; could not ascertain the cause, beyond disappointment at her friends not coming to see her; however, by treatment she convalesced, and eventually went out well.

The 4th, aged 29, a primipara, admitted with a tongue coated, thick fur; pulse 94; the waters had broken 4 days previous, which caused delay in the 1st stage of labour; had to be delivered with the forceps; the 3rd stage lasted 10 minutes, and there was no *post partum* hæmorrhage; her child, a boy, living, weighed 5 lbs. 12 ozs.; went on favourably, milk being secreted within 24 hours, and was nursing till the 7th day, when she was attacked with mania, attributable to some bad news, so far as we could ascertain; she was treated as the others, with improvement; she was removed by her friends on the 9th day.

SCARLATINA.

There were 10 cases of scarlatina, 7 in primiparæ and 3 in pluriparæ. In 2 instances the symptoms were apparent at the time of their admission, but we could not send them away owing to their labour being so pressing; both were primiparæ, one of whom died on the 5th day, and is noticed

in the account of deaths. The other went through the sickness favourably, and recovered.

In 1 case, her 3rd pregnancy, the disease showed itself on the 2nd day, and went on favourably, and she was discharged well.

In 3 instances the disease was developed on the 3rd day, 2 of whom were primiparæ. One was sent to the Hardwicke Hospital.

The 2nd, a case of seduction, aged 22, was admitted on the 21st of August, direct from the country, where she had slept the night before. Her labour was natural; and she went on favourably till the 3rd day, when, on visiting her, we found the face flushed, but without any fever. At 10 p.m. a roseolar rash appeared over her neck, breast, and arms.

25th.—Passed a tolerable night—pulse, 116; tongue furred, but moist; therm. 102.3° , a red blush covering her chest. At 2 p.m. her pulse was 140; tongue moist; therm. 104.3° . Scarlet eruption has spread to her body, thighs, and legs, a miliary rash covering the back of both her hands. At 6 p.m. the therm. registered 105.3° . On the 26th her pulse was 132; therm. 102° ; tongue slightly furred and moist. The rash seems fading on her chest and arms; but on the inside of the legs, knees, and thighs, it is of an intensely red colour; throat somewhat sore. At 3 p.m. her pulse was 144; tongue moist, coated with white fur; therm. 105.4° . At 6 p.m. pulse was 124; tongue same as before; strength seems good. On the 27th, the pulse was 132; therm. 102.7° ; tongue slightly furred and moist; throat feels and looks better, a miliary rash covering the chest and neck. The left thigh on the inside is of an intense crimson colour, almost approaching to a purple, livid hue, as if mortification was about setting in. She has some sickness of stomach. At 3 p.m. her pulse was 124; tongue loaded but moist; therm. 101.7° ; both thighs on the inside still continue intensely crimson, but it does not extend below the knees. Her strength keeps good and she is rather cheerful. Desquamation commenced over her chest on the 8th day. The deep colour of her thighs continued, but she convalesced favourably, and was sent to another hospital, at her own particular request, on the 9th day, where she perfectly recovered.

And the 3rd, her 8th pregnancy (a midwife), her labour was natural; there was no *post partum* hæmorrhage. The rash appeared on the 3rd day, which, on the day following, extended over the abdomen, hips, and gluteal region. Her strength rapidly gave way, and she sank on the 3rd day of the disease making its appearance.

In 2 the rash appeared on the 4th day. Both were primiparæ. One was sent to another hospital; the other was moved to a separate ward, where she progressed favourably, and was discharged well.

In 1, her second pregnancy, the rash appeared on the 5th day. She was sent to the Hardwicke Hospital.

In 1, a primipara, the disease did not appear till the 6th day. She was treated in the house, and went out well.

Now, in order to prevent it being thought that these cases occurred at the same time, or that it was the result of the disease spreading from one to the other, we consider it well to state that they took place, in the majority of instances, at long intervals, say of 1, 2, and in some 3 months, and in perfectly distinct wards, which were widely separate from each other, and in which, during the intervals, every ten days, a fresh batch of patients were confined. We can also distinctly say that, in no one instance, did the disease extend to any other patient or inmate of the house.

FEVER.

There were 5 cases admitted in a state of fever. All were primiparæ, one of which went through it favourably; in the other four peritonitis supervened.

PERITONITIS.

In 26 instances this disease developed itself after delivery, 21 being in primiparæ, out of which 15 died; 6 were pluriparæ, of which 3 died. The fatal cases are already mentioned in the death list. Of the 8 who survived 6 were primiparæ. The 1st was a case of seduction, in great distress of mind; had to be delivered with the forceps. She had also *post partum* hæmorrhage of the 3rd degree. The disease showed itself on the 2nd day. However, by cheering her up and allaying her feelings of anxiety, besides the usual treatment, she recovered and went out well.

The 2nd was very delicate all through her pregnancy. In this case the symptoms appeared the day after delivery, attended with diarrhœa; but she eventually recovered and went out well.

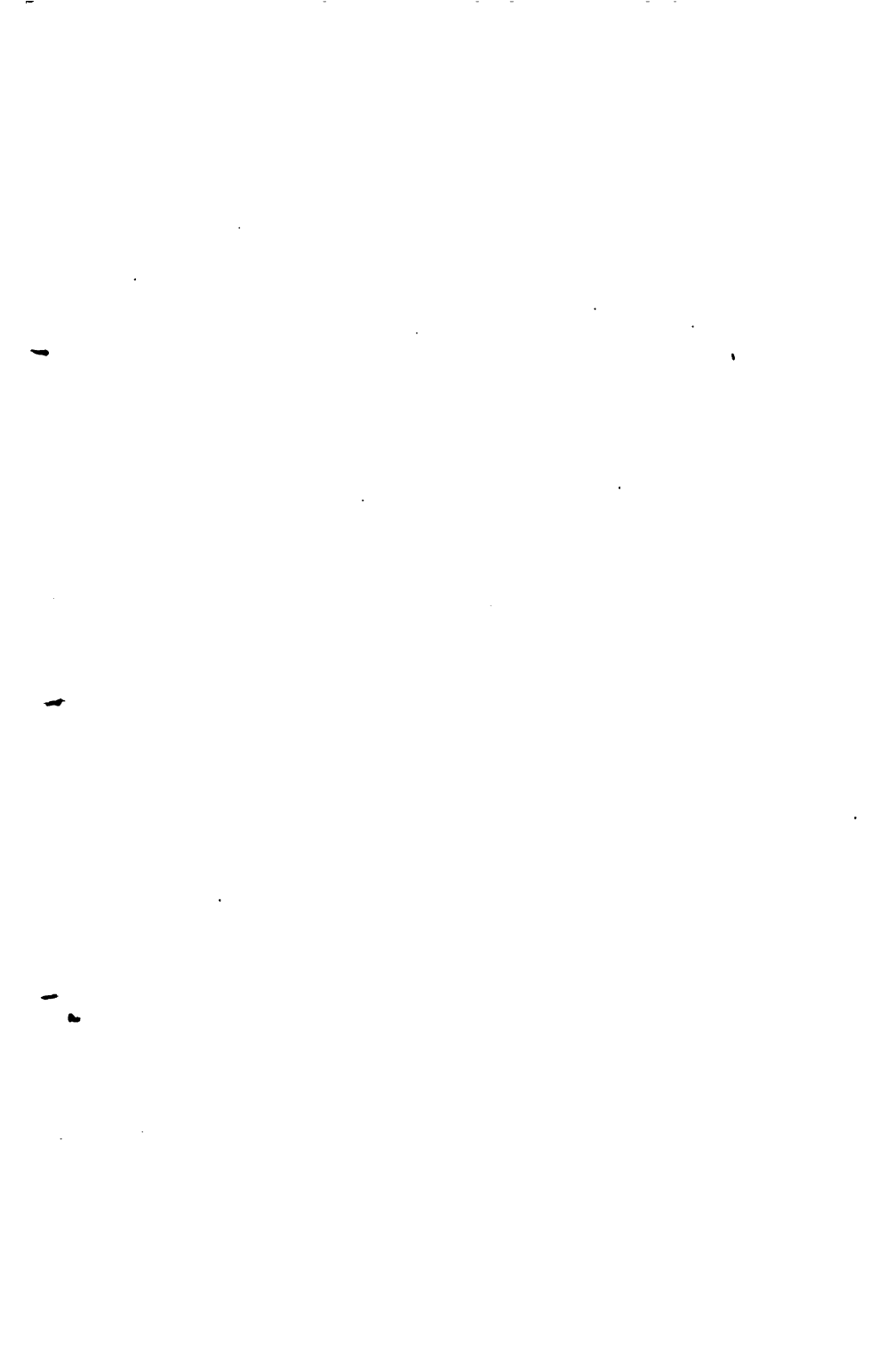
The 3rd, admitted in a very delicate state of health, with feverish symptoms, quick pulse, tongue dry, headache, shivering. The peritonitis did not appear till the 3rd day, from which, however, she recovered slowly and was discharged well.

The 4th, admitted with bronchitis, from which she had been suffering for the last month. In this case the symptoms developed themselves on the 2nd day, but eventually she recovered.

The 5th, innupta, fretting. Labour was natural. Peritoneal symptoms appeared on the 5th day. Had a very slow recovery, but eventually went out well.

The 6th—the labour was instrumental, *i.e.*, with the forceps. The symptoms appeared the day after confinement; went through the sickness favourably and completely recovered.

There were 2 pluriparæ, the 1st her 3rd pregnancy. Within 24 hours after labour, which was natural, she complained of great sickness of



them, during

Deaths		Deaths		Deaths	
1	1	4	1	1	1
3	1	1	1	1	1
3	1	2	1	1	1
3	1	1	1	1	1

stomach, tenderness on pressure over abdomen, which was tympanitic, her pulse quick, and a good deal of fever, which, under treatment, she got over and eventually went out well.

The 2nd was her 8th pregnancy. Her labour was natural. Symptoms within 24 hours after confinement, which was natural; no *post partum* hæmorrhage. She was going on favourably when her husband took her out, having signed the declaration.

PYÆMIA.

There were 4 cases where pyæmia appeared.

The 1st, aged 26, her fifth pregnancy, was admitted with the pyæmic patches over different parts of the extremities; and is mentioned in the list of deaths.

The 2nd, aged 23, her sixth pregnancy, was admitted with the pyæmia upon her; she also is mentioned in the list of deaths.

The 3rd, a primipara, was admitted in very delicate health, with cough and great weakness; night sweats; her labour was natural; no *post partum* hæmorrhage. On the sixth day pyæmic patches appeared on the elbow and hip of right side, and she rapidly sank three days after.

The 4th, her third pregnancy; labour was induced in consequence of deformity. She was in wretchedly delicate health from privation; her labour went on favourably; there was no *post partum* hæmorrhage; pyæmic symptoms appeared almost immediately; eventually got a chronic gluteal abscess; made a very slow convalescence. She was sent to the Whitworth Hospital to try the effects of change of air on her 23rd day.

That the sanitary state of the hospital during the past year may be fairly and accurately seen, the following Table has been drawn out; it is similar to those published in former Reports, and gives the number of deliveries which took place in each ward, together with the deaths as they occurred in them, and the complaint of which they died, whether of a contagious or an accidental nature; by this latter term we mean complaints such as bronchitis, pleuritis, pneumonia, convulsions, placenta prævia, &c.

Now, on examining the Table, it will be perceived that each ward is arranged from left to right in numerical order, so that by reading each column the number of patients delivered in each month will be seen, and any deaths that may have occurred during the month, and whether of a zymotic type or not; the figures in red denote the primiparæ.

Thus, for example, during the month of November 8 were confined in No. 1 ward, 1 of which was primiparæ, and no death; 11 were confined in No. 2 ward, 6 of which were primiparæ, and no death; there were 6 in 3 ward; 9 in 4; 8 in 5; 7 in 6; 9 in 7; 8 in 8; and 9 in 12 ward, making a total of 75 confined in November, 27 of whom were primiparæ, and no deaths.

Then by reading the column under No. 5 ward, for example, from above downwards it will be found that in November there were 8 deliveries, no deaths; in December, 12 deliveries, no deaths; in January, 15 deliveries, no deaths; in February, 10 deliveries, no deaths; in March, 15 deliveries, no deaths; in April, 7 deliveries, no deaths; in May, 14 deliveries, 2 deaths, both of which were zymotic, one a pluripara, the other primipara; in June, there were 8 deliveries, 1 death, a pluripara, zymotic; in July, there were 7 deliveries, and no deaths; in August, 10 deliveries, no deaths; in September, 12 deliveries, no deaths; in October, 9 deliveries, no deaths; in November, till the 5th inclusive, 1 delivery, no death; and the total, 128 deliveries, and 3 deaths from zymotic causes. Of the 128, 34 were primiparæ, with 1 death from zymotic cause.

And lastly. In order to show that a large maternity is not the focus of zymotic diseases, nor does it engender or even cause the spread of epidemics, the following Table has been drawn up, as heretofore, from the Registrar-General's Report of Deaths in the City of Dublin and its suburbs, which are divided into districts, 3 being on the north side and 4 on the south side of the river.

Now, although this Table has been cavilled at by some, as being inefficient in proving the point which is required, inasmuch as it does not give the amount of population of each district, or the nature of the complaint, or class of cases, whether they occurred in children, women in their puerperal state, or old people—this deficiency must, to a certain extent, be allowed, and it is to be regretted that the census statistics do not go so far into details, and, therefore, at present it cannot be remedied; but, at the same time, we consider that defective though they be in this particular circumstance, what is really wanted, is proved by the fact that so many deaths from zymotic diseases take place in certain districts, and a number of patients coming from amongst those contagious complaints are confined in the hospital, and the result of their having done so is shown by the Table.

Each district in the Table contains, as will be perceived, three columns, the first column giving the number of deaths from zymotic disease, according to the Report, which occurred in the district. The second column contains the number of patients delivered in the hospital who came from that district, and the third column records the number of deaths which occurred amongst the latter for each month in the year.

However, as it is not necessary to go into the details of every month, we give you merely the summary; thus, for instance, looking at the total at the bottom of the left-hand side of the table, it will be seen that in No. 1 North City District there were 203 deaths from zymotic diseases; 287 individuals coming from that district were delivered in the hospital, out of which 8 died.

In No. 2 District 103 deaths took place from zymotic complaints; 282 individuals coming from that district were delivered in the hospital, out of which 3 died.

In No. 3 District there were 194 deaths from zymotic complaints; 99 patients coming from that district were delivered in the hospital, 8 of which died.

In No. 1 South City District there were 270 deaths; 41 patients coming from that district were delivered in the hospital, of whom 1 died.

In No. 2 South City District there were 78 deaths from zymotic complaints; 96 patients coming from that district were confined in the hospital, 6 of whom died.

In No. 3 South City District there were 290 deaths from zymotic complaints; 99 patients coming from that district were delivered in the hospital, without any deaths from zymotic diseases.

In No. 4 South City District there were 301 deaths from zymotic complaints; 161 patients inhabiting that district were delivered in the hospital, of whom 1 died.

DR. MORE MADDEN said:—I am sure I express the unanimous feeling of the Society when I say that we owe a deep debt of gratitude to Dr. Johnston for his admirable series of Reports, to which the able and exhaustive Address we have heard to-night forms a fitting sequel. These Reports contain the most accurate and valuable body of statistics on obstetrical subjects in existence, and I trust that Dr. Johnston will at some future time put them together in one volume, as such a work would be one of the greatest interest and value. The time, zeal, and energy with which Dr. Johnston has devoted himself to the service of the Lying-in Hospital can only be appreciated by a person who had an opportunity of witnessing his labours. As one of Dr. Johnston's former assistants, I can bear my humble testimony to the untiring zeal with which he gave a large portion of his valuable time for the benefit of the institution, and I think the only reward he then sought—which he has certainly gained—was the satisfaction of showing that the mortality in the Lying-in Hospital, from epidemic and zymotic diseases, can be reduced to almost nothing. He has satisfactorily proved that that institution is not necessarily a focus for zymotic diseases of any kind. With regard to the details of the treatment he adopted in the cases mentioned in his Report, there is necessarily great scope for discussion. The subject is almost inexhaustible. He has treated of every variety and complication of labour, and, consequently, there must be difference of opinion on some of the points involved. The result, however, of his treatment has been in general most satisfactory. With regard to one point—namely, his application of the forceps before the full dilatation of the *os uteri*—I cannot refrain from expressing my

regret that Dr. Johnston has not modified his views on the subject. I think it is a practice which should be adopted with great caution. We must hesitate before we give up the old-established and well-founded canons of midwifery, which prohibit us from interfering in the great proportion of cases of labour, and, above all, from interfering at a very early period. We must hesitate before we teach such a practice to our pupils, for though in the hands of Dr. Johnston it has been eminently successful, it does not follow that all who strive to imitate him would attain the same success.

DR. HENRY KENNEDY.—Sir, I feel it would be wrong to let this occasion pass without a remark. I am not myself connected with the immediate subject of the Report; but through the kindness of Dr. Johnston I have had an opportunity of seeing the great majority of the cases now going under the name of zymotic that occurred during his Mastership of the Lying-in Hospital, and the result of my observation was that the great majority of those patients had symptoms of fever—I will not say of what kind—upon them at the time of their coming into the hospital. I wish this to be publicly understood. As regards the question of a large hospital being a focus of contagion, I think that if a patient, at the time she reaches the hospital, and before her delivery, exhibits symptoms of fever, it settles the question as to the risk she undergoes subsequent to her reception into the hospital. No one can then maintain that she gets the disease in the hospital. Some of the patients alluded to had disease upon them so distinctly before their delivery that the character of it could be declared. The majority of them had fever upon them, with the symptoms of pulse above the ordinary standard, and a furred tongue, though what the particular nature of the disease was it was not always possible to declare for a day or two. This was the fact in two-thirds of the cases admitted, whether they subsequently ended fatally or otherwise. Another point was the variety in the symptoms and circumstances of the cases. The lying-in of some lasted only two or three hours, and that of others from forty to sixty hours. If there had been anything of contagion arising in the hospital, I cannot understand how that is to be explained. It is impossible to be explained on the supposition that the hospital itself is a focus of disease. With respect to the question of the operation of the mind on labour cases, the effect which the patient's state of mind had upon her recovery was in many cases quite remarkable. The patients who had been unfortunately seduced were almost certain to run into serious diseases, and very few of them recovered. This, of course, is perfectly well known to all who are much engaged in practice of the kind. I would repeat, in order to prevent outsiders from being led away by false theories in reference to this noble institution, that I think the evidence which has been adduced by

In No. 2 District 108 deaths took place from zymotic complaints; 282 individuals coming from that district were delivered in the hospital, out of which 8 died.

In No. 3 District there were 194 deaths from zymotic complaints; 99 patients coming from that district were delivered in the hospital, 3 of which died.

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Dr. Johnston amply strong enough to satisfy any reasonable mind that no focus of disease exists in the hospital.

DR. DENHAM.—I cannot allow this occasion to pass without saying how deeply we are all indebted—not alone the Dublin Obstetrical Society, but also the profession at large, not alone in Dublin, but throughout the entire of the empire—to Dr. Johnston, for the admirable series of Reports he has brought out in relation to the Lying-in Hospital. Some of us may differ with him as to particular points of practice, but all, I am sure, will admit that the amount of labour, talent, and fidelity exhibited in these Reports exceeds all comment, and is beyond all praise. I know that Dr. Johnston has devoted hours of the day and of the night to the preparation of these Reports. They are not like Reports of the private practice of individuals, but have been prepared under the observation of two able assistants and of a large class of intelligent pupils; and I defy any man, or body of men, to cast the slightest imputation upon their accuracy. They are peculiarly gratifying to me, as I had the honour of preceding him in the mastership of that hospital. I had neither talent, nor time, nor inclination, to attempt the drawing up of such Reports. But the theories that I then propounded, and the opinions that I then expressed, have been largely verified by Dr. Johnston's Reports, especially in respect of the point alluded to by Dr. Kennedy. In a discussion that occurred in the Society some years ago on the question as to whether this hospital was a focus of disease, I asserted the fact that women came into it with the poison of disease lurking in their systems, and that it remained latent until after they were delivered, and then the spark, whatever might have been the nature of it, was fanned into a flame that often proved fatal. I have no hesitation in saying that I have met cases in both my public and private practice of women who died from puerperal disease, the fever having been contracted before their delivery, but having only developed itself afterwards. The Report embraces several points of deep interest, with which it is now utterly impossible for us to deal. I believe that, to use the words of our admirable liturgy, we must "read, mark, learn, and inwardly digest" that Report; and I believe it is only when we shall have the statistics of the entire seven Reports before us, in one condensed view, that the profession will be at all able to appreciate and reap the full benefit of them. It would be idle for us, with so limited a time at our disposal as we have this evening, to attempt to discuss the Report which has been just read, and I feel that the Society will not be slow in passing a vote of thanks to Dr. Johnston for it.

DR. FITZPATRICK.—I can only say, as an old member of the Society, that time works wonders. It is not twenty years since Dr. Churchill

read a paper in this Society, in answer to one which appeared in a non medical periodical, deprecating the use of the crotchet. On that occasion Dr. Beatty, who was in the chair, advocated the use of the forceps, and I made some observations, and—with very slight assistance indeed from Dr. Churchill—was the only man in the whole room who advocated the use of the forceps. As a proof of my belief in its efficacy, I may allude to a case which occurred in my own family, and in which the patient was under the care of my esteemed and respected friend, Dr. Collins. I suggested the use of the forceps, and he acted on my suggestion, and saved both mother and child. I listened with the greatest satisfaction to-night to the remark of Dr. Johnston, that in every case in which he had to use the crotchet such a pressure had been put on the child, and such an amount of obstruction to delivery existed, that the child was dead before the operation. I believe we now owe Dr. Johnston great thanks for what he has done with regard to the forceps. At the same time I concur in his advice, that we should be cautious in the use of it, and not resort to it hastily or violently. I find that he had only one death from *post partum* hæmorrhage. He does not allude to a fact which my experience enables me to attest—namely, that the importance of the loss of blood is not to be tested by its quantity, but by the effect produced on the patient. I once attended a butcher's wife, a tremendously fat woman, who lived well every day. After her delivery a hæmorrhage took place that positively horrified me, and that I thought was enough to have destroyed ten women. The blood poured from the bed down on the floor, and I could not calculate the amount of it; but she smiled at me, and said, "Don't mind that—I am accustomed to it always." Therefore, let the practitioner not be frightened at the amount of the bleeding, but watch the effect of it. I do not think the practitioner should be in too great a hurry to use perchloride of iron, or employ other extraneous means; he should rather adopt the plan of Dr. Johnston, of keeping the uterus well supported, and properly adjusting the binder, which will render the necessity for injection of perchloride of iron very limited indeed.

DR. KIDD.—I wish that Dr. Denham had concluded his observations by moving the vote of thanks which he spoke of. My feeling ever since this paper began has been that it is due to ourselves, at the close of Dr. Johnston's term of office in the hospital, that this Society should express their great indebtedness to him for his valuable series of Reports. I feel that it has served the Dublin School of Midwifery, this Society, and the cause of humanity at large, because it has given us a knowledge of midwifery, accurate and complete, to a degree that we never possessed before. I feel that it would be presumptuous on our part to attempt to discuss to-night a paper containing so much. There are points in it on

which, at first sight, I certainly feel inclined to differ from him; but we have discussed these points on former occasions, and they are not of such importance that I deem it necessary to allude to them now. If I have ventured to differ in opinion with Dr. Johnston, I did so with great humility and hesitation. Dr. Johnston's great experience, and the success which has attended his practice, are enough to make any man have the greatest hesitation in differing with him. As Dr. Denham has said, the facts in the Reports do not admit of a doubt. They have been recorded at the moment and in the presence of a numerous class of able and competent observers, so that if the necessity were to arise of vouching for their correctness, it could be done. Dr. Fitzpatrick made one remark that I cannot allow to pass; he spoke of one who is not present with us to-night, Dr. Churchill, as having been an advocate of the crotchet.

DR. FITZPATRICK.—I stated that Dr. Churchill gave a sort of confirmation of my views.

DR. KIDD.—Dr. Churchill upheld the use of the crotchet when he believed that it was right and necessary to use it; but he and Dr. Beatty were the first to restore to the Dublin School the use of the forceps—a fact that should always be borne in mind. Though he boldly asserted the propriety of using the crotchet under circumstances where he thought it necessary to do so, he was no advocate of the crotchet, but rather upheld the use of the forceps. This is a mere passing matter, and though it is not usual in this Society to move votes of thanks for papers, I feel that this is a case in which our rule should be broken through. Some may hesitate about establishing a precedent, but it will be one which, I fear, can never be followed again, for although it may be bold to prophesy, I doubt whether we shall ever again have such a series of Reports as Dr. Johnston has given us. I, therefore, beg to move that the marked thanks of the Society be given to Dr. Johnston for the admirable, excellent, and valuable series of Reports relating to the Lying-in Hospital which he has given us.

DR. DENHAM.—I beg to second that motion.

The CHAIRMAN.—You have heard the resolution proposed. I am sure it is unnecessary for me to call on you to pass it by acclamation.

DR. JOHNSTON.—Mr. President and Gentlemen,—The least I can do is to return you my most sincere thanks for the honour you have done me—one of the greatest that has been conferred upon me during my life. With regard to my management of the hospital and the modes of treatment I adopted, you are all aware that when I was appointed to the hospital the question of the state of large maternities was under

discussion, and I was determined to test the matter, in order to ascertain whether the hospital was a really safe asylum for the poor creatures who resorted to it. That was my only inducement for commencing these Reports. With respect to Dr. Kidd's observations as to the use of the forceps, I have only to say that when I became Master of the hospital I saw the disadvantage of allowing patients to undergo extremes of suffering, and thought that, with a little caution, I might use the instrument which I have since fortunately brought into requisition so frequently. I found the use of it to be attended with the greatest benefit, as many others have also who have witnessed the employment of it. Not alone myself, but my assistants, are able to use it, and we are convinced that it can be employed, not only with advantage to the mother, but with safety to the child. There is no doubt whatever that it is a perfectly innocuous instrument when in careful and skilful hands. I have again to thank you for your approval of my exertions.

NITRITE OF AMYL IN MELANOLIA.

PROFESSOR TREBALDI believing that melancholia depends upon a diminished activity with an excitability of the brain, finds the inhalation of nitrite of amyl to be of signal service. In cases where stupidity and drowsiness are prominent symptoms, he finds that it produces effects like transient intoxication; in other cases where the patients had maintained obstinate silence, or, still worse, had refused to eat, he repeatedly broke the spell by its influence. So much confidence does he place in its power that he advocates its use as medico-legal test where refusal of food and mutism are simulated.—*Rivista Sperimentale di Freniatria.* S. W.

PETROLEUM AS A SURGICAL DRESSING.

DR. COMEGYS PAUL records (*Philadelphia Med. Times*, Nov. 27, 1875,) some instances illustrative of the successful employment of petroleum as an antiseptic and stimulating dressing for ulcers and suppurating wounds. It is, he says, a useful and cheap article, and can be applied with little trouble or inconvenience. Dr. Paul believes the petroleum to be most useful as an application to non-specific sluggish ulcers, and to all suppurating wounds that have a tendency to heal with an unhealthy and easily-ruptured cicatrix. As an injection in sinuses, either connected or unconnected with diseased bone the result, he says, will be satisfactory. In a bone-sinus it can be used without interruption, materially diminishing the discharge. Wounds dressed with petroleum should be thoroughly cleansed, then covered with saturated lint, and, where there has been deep-seated destruction of the tissues, charpie fully impregnated with it should be packed into the cavities, and the whole overspread with oiled silk, waxed paper, or a piece of muslin spread with lard.

PROCEEDINGS OF THE PATHOLOGICAL SOCIETY OF DUBLIN.

President—HENRY KENNEDY, M.B., F.K.Q.C.P.

Secretary—E. H. BENNETT, M.D.

Sarcoma Pigmentosum Oculi.—MR. WILSON said: The patient from whom this eyeball was removed was a man, aged seventy-seven, who states that, about fifteen months ago, he experienced some uneasiness in his left eye, accompanied with flashes of light and pain, and that, about a year ago, his vision in that eye became totally extinguished. Some six or seven months ago the eye began to protrude between the eyelids, and became staphylomatous. The staphyloma was abscised, and the eye-ball began to bleed. Shortly afterwards a black mass protruded through the aperture which had been made, and, after a short time fell away, and the eyeball again bled. He finally came to me this week with a black, fungus-like mass protruding between the eyelids, and with the upper eyelashes adherent to it. It was constantly secreting matter and oozing blood, and he had also great pain extending over the whole side of the head. The diagnosis at once became clear that it was a so-called melanotic tumour. Owing to the continuous hemicranial pain which it produced, loss of sleep, as well as to the hæmorrhage and constant secretion, and great annoyance, I decided to remove the tumour. Accordingly, I removed the entire eyeball on Wednesday last. On making a section of the eyeball and protruding tumour, we found nothing left inside the sclerotic but a dark, black mass, without any trace of retina, lens, iris, or any other structure. The cornea in front is completely gone, with the exception of a small ring, where it is attached to the sclerotic coat. On a microscopic examination the tumour evinced itself to be one of small spindle-celled pigmented sarcoma, so common in eyeballs, and which springs from the choroid. It is a good example of this, and differs very materially both in its common appearance and its microscopic characters from the growth called glioma, which occurs in the eye more frequently in early than in adult life. Sarcoma of the choroid is in itself a perfectly painless disease, so long as it is confined to the back part of the eyeball. When, however, it encroaches on the ciliary region, it causes great pain; and in the present instance, notwithstanding the eyeball being open in front, the tumour pressed upon the ciliary nerves on all sides, and thus gave rise to the hemicranial pain. This tumour having existed for fifteen months, the probability is that at his time of life, it will recur in some other organ, or in the orbit.—December 4, 1875.

Morbus Coxæ.—DR. BENNETT said: This specimen illustrates some

points of interest in relation to this very common disease—*morbus coxae*. The patient from whose body I removed it was twenty-seven years of age. He had suffered for nearly two years previous to his admission to Sir P. Dun's Hospital from symptoms of *morbus coxae*. He was admitted on May 11, 1874. It was not very easy to determine the exact mode of the commencement of the disease, but he attributed it himself to an attack of acute rheumatism. When he first came under observation the disease had already reached the stage of abscess, there being an indistinct but still sufficiently definite feeling of an abscess indicated by a deep-seated, fluctuating tumour on the outside of the thigh. He had been for two years ill, on and off, and his symptoms were gradually increasing. There was nothing specially to be noticed in the phenomena of the disease as it presented itself on his admission. Its features were well marked, and easily made out. He presented the usual starting, which is supposed to indicate ulceration of the articular cartilage. The limb was fixed by involuntary action of the muscles, was advanced upon the pelvis, and was excessively sensitive to any motion; particularly to any attempt at abduction. The treatment was conducted in the ordinary way. Permanent extension was kept up by weight and pulley. After a while the limb assumed a better position; and after the patient had remained in hospital for some months, he had slowly improved, so far as to be free from pain, and to a great degree free of hectic fever. Still there existed the one marked symptom—abscess; and this abscess, for some time at all events—more than two or three months—increased in dimensions. This symptom yielded at last, and improvement as regarded the other symptoms was established. The man left the hospital at the end of four months. He left at the approach of last spring, with the view of moving into more healthy air at Sandymount, and so attempting to complete his recovery. Towards the end of March, 1875, however, he was re-admitted into the hospital, suffering from an aggravation of all his symptoms. The spasmodic action of the limb and the hectic fever, both of which had entirely ceased before he went out, had returned, and the abscess, which had diminished much in size, was much larger than it was when he left the hospital. So that, whether from indiscretion in moving about, or the change of residence, or from the natural course of events—we cannot say which of the three—the disease had progressed since his change to the seaside. The case progressed slowly from this to a fatal issue, the abscess increasing until it attained a great size. A distressing phenomenon associated with the disease complicated the case. The man suffered from cardiac disease, I do not know of what form exactly; suffice it to say that he had irregular cardiac action, with mitral systolic murmur, and he was subject, without any assignable cause, to violent attacks of *angina*. During one or two of these attacks, his life appeared to be threatened; however, he tided over them. The hip disease seemed to

run along without producing any marked effect on the cardiac affection. As the case approached its termination, the abscess formed a large tumour on the outside of the thigh, and it was possible to detect the passage of the fluid contents of it beneath Poupart's ligament into the interpelvic region. Its motion suggested the idea that an opening into the bottom of the acetabulum had been formed, and that an interpelvic abscess had made its way outwards over the brim of the pelvis. I mention this as a symptom which in this case, at least, might have led to an erroneous opinion in determining the question of the fitness of the case for the operation of excision. Considering the low condition in which this man was, and his evident cardiac disease, it was not deemed advisable to interfere with the abscess, and the question of excision could not be entertained at all surgically. The abscess was at last emptied with an aspirateur, so as to relieve urgent distress from tension. A few days after being relieved by the removal of the fluid, while he was sitting up in bed to ease his respiratory distress, the abscess burst, and a great discharge of purulent matter, mixed with grumous blood, took place. In fact, it appeared as if the aspirateur had precipitated the natural opening, though it is quite certain that one or two days more, under any circumstances, would have settled the question. From that time the patient rapidly sank. The other symptoms of importance in the case, as presenting exceptional characteristics, were these:—During the marked development of the abscess, after his second admission to hospital, the left limb, that in which the disease existed, became œdematous in the extreme, and attained large dimensions. Then the opposite limb became œdematous; and, finally, before his death, as occurs in many of those cases, even the hands became œdematous. The œdema commenced in the limb affected by the *morbus coxae*, appeared slowly after an interval of about three or four weeks in the opposite limb, and finally became general. We were inclined to attribute this to the cardiac affection, aggravated by the presence of the abscess. The specimen now before you presents, as far as the femoral portion of it is concerned, a well-marked example of ordinary caries of the hip-joint, attended with stripping of the cartilages and, to a considerable extent, erosion of the bone. At a short distance down the neck, the periosteum is stripped off; but the disease is very much confined to the upper extremity of the neck of the femur, and does not reach down outside the capsule or involve the base of the neck. The marked limitation of the disease to the upper extremity of the femur points to the case being one, not of the variety known as femoral disease, but of the acetabular form. On looking at the acetabulum the same condition of disease presents itself. The cartilage hangs as a fringe in the cup. You can remove pieces of it; and in other parts the bone is bare and much eroded. At one or two points there are small sequestra; but it is difficult to state whether they are pieces of the head

of the femur or of the acetabulum. Next, with regard to the bottom of the acetabulum, though the caries has not made any excavation into the pelvis, and though the bone is thinned to such a degree that you can see the light through it, still there is no intrapelvic abscess communicating with the acetabulum, no abscess, and no disease on the inner face of the bone. The question is—what was the cause of the intrapelvic abscess observed during life? On looking for this, we discovered, as you can see, up along the back of the iliac vessels, a considerable collection of matter. This suppuration commenced in the lymphatic glands, along the back of the iliac artery. The abscess, so developed, had escaped down under Poupart's ligament and had connected itself with the larger tumour. The intrapelvic abscess was placed along the track of the iliac vessels, and was originally a glandular abscess, communicating with the external abscess, and did not communicate with the joint, except through the large external abscess. It is not, in any way, an intrapelvic abscess springing from the foot of the acetabulum, as it is commonly seen to do. In connexion with this is the explanation of the symptoms of œdema, and the localisation for some time of the œdema in the left limb. Here are the femoral vessels, the common femoral artery, with the vein laid open for a distance considerably below Poupart's ligament; and along that line we find the vein entirely occluded by coagulum, adherent, firm, hard, and requiring considerable force to detach it. Tracing it upward, we find that the external iliac vein passes through the chain of diseased glands. Tracing on the course of the vein to its issue we find that the common iliac vein is absolutely closed. We can see nothing but a cicatrix marking the point of entrance into the cava. Passing downwards, we lose the coagulum from which this obstruction of veins arose in the glands which lie in front of Poupart's ligament. With regard to the history of the occlusion, the probability is that at first the glandular disease existed external to Poupart's ligament, and that then it extended upward, and, on suppurating, the veins leading from the glandular abscess became the seat of occlusion by the formation of a clot. The existence of an intrapelvic abscess is a grave contra-indication to the operation of resection of the hip-joint in this disease. But, in this case, if other matters had been suitable, the existence of this abscess would have been no counter-indication to the performance of an operation, in the ordinary acceptation of its value, for it was not an abscess connected with disease or perforation of the acetabulum. This question of excision, though we had to examine it in relation to one set of symptoms, did not really arise in the case, for the man's condition and the cardiac disease giving rise to such violent attacks of angina, were sufficient contra-indications, and, in my opinion, entirely excluded the question of undertaking excision. So that the operation was considered as abandoned, for these reasons, before the other symptoms arose.—*December 11, 1875.*

• SANITARY AND METEOROLOGICAL NOTES

Compiled by J. W. MOORE, M.D., F.R.Q.C.P.

VITAL STATISTICS

*Of Eight Large Towns in Ireland, for Four Weeks ending Saturday,
January 29th, 1876.*

Towns	Population in 1871	Births Registered	Deaths Registered	DEATHS FROM ZYMOTIC DISEASES								Annual Rate of Mortality per 1,000 Inhabitants
				Small-pox	Measles	Scarlet Fever	Diphtheria	Whooping Cough	Fever	Diarrhoea		
Dublin, -	314,666	696	794	—	14	24	2	28	24	12	32·9	
Belfast, -	182,082	515	388	—	2	11	2	8	2	4	27·7	
Cork, -	91,965	179	234	—	9	7	—	4	5	6	33·1	
Limerick, -	44,209	80	118	—	—	—	—	8	2	4	34·7	
Derry, -	30,884	68	72	—	8	10	1	2	—	1	30·3	
Waterford, -	30,626	71	46	—	—	—	—	—	4	—	19·5	
Galway, -	19,692	43	33	—	—	—	—	—	—	1	21·8	
Sligo, -	17,285	34	30	—	—	1	—	—	—	2	22·5	

Remarks.

A very high death-rate prevailed in Limerick, Cork, and Dublin; a high death-rate in Londonderry and Belfast; in the other three towns the mortality was low. The rate of mortality was 24·5 per 1,000 of the population annually in London, 25·8 in Edinburgh, and 29·5 in Glasgow, so that Dublin was the most unhealthy of the four cities. Amongst zymotic diseases, measles was rather fatal in Cork and Derry, scarlatina in Dublin and Derry, whooping-cough in Dublin and Limerick. Of 144 zymotic deaths registered in Dublin during the period, 112 occurred within the Municipal Boundary. Disease of the respiratory organs caused 213 deaths, including 155 from bronchitis and 26 from pneumonia. The corresponding numbers for London, where the mean temperature of the four weeks was 6° Fahr. lower than it was in Dublin, were 1,646, 1,070, and 374. The population of London is eleven times greater than that of Dublin.

METEOROLOGY.

*Abstract of Observations made at Dublin, Lat. 53° 20' N., Long. 6° 15' W.,
for Month of January, 1876.*

Mean Height of Barometer, - - -	30·206 inches.
Maximal Height of Barometer (9 a.m. on 15th), -	30·662 „
Minimal Height of Barometer (9 p.m. on 19th), -	29·644 „
Mean Dry-bulb Temperature, - - -	42·9°
Mean Wet-bulb Temperature, - - -	40·6°
Mean Dew-point Temperature, - - -	37·8°
Mean Humidity, - - -	82·3 per cent.
Highest Temperature in Shade (on 30th), -	55·1°
Lowest Temperature in Shade (on 9th), -	26·0°
Lowest Temperature on Grass (Radiation) (on 9th), -	22·9°
Mean Amount of Cloud, - - -	65 per cent.
Rainfall (on 9 days), - - -	·406 of an inch.
General Direction of Wind, - - -	S., S.W., and W.

Remarks.

Very mild weather continued until the 5th, when temperature fell rapidly under the influence of an easterly current of air, which was developed by the propagation, south-westwards from Northern Europe, of an area of high barometrical pressure. In some places the reduction of temperature was remarkable for its amount and rapidity; thus, at Lyons, the thermometer fell in 24 hours, on the 5th, from 50° to 19°. Cold weather prevailed until the 16th, when a S.W. current became re-established in the British Islands. Barometrical pressure remained high, and the isobars were usually anticyclonic, except in the extreme N. and N.W. The rainfall was very trifling. On the 21st a cyclonic system traversed the S. of England, and was accompanied by the extraordinary snow-storm which caused the disastrous railway collision at Abbots-Ripton. Many years have elapsed since so fine and, on the whole, mild a January has occurred.

PERISCOPE.

Edited by G. F. DUFFEY, M.D., F.K.Q.C.P.

PHYSIOLOGICAL ACTION OF THE CHLORATES OF POTASSIUM AND OF SODIUM.

DR. A. JACOBI, in a paper "On some Points relating to the Nervous System of Children," a synopsis of which is given in the *N. Y. Med. Jour.*, December, 1875, incidentally directs attention to a fact not generally appreciated—viz., that these chlorates have a marked effect on the kidneys. Dr. Jacobi had a patient who suffered from sore-throat, for whom he ordered an ounce and a half of the chlorate of soda in solution as a gargle. By mistake the patient swallowed it, and in a few days died of nephritis. The late Dr. Krackowizer lost a patient in a similar manner. The chlorate of potash also produces congestion of both the stomach and kidneys, and in large doses has not infrequently proved fatal.

RUPTURE OF THE URETHRA.

ASSISTANT-SURGEON J. B. HAMILTON, U.S.A., reports (*N. Y. Med. Jour.*, December, 1875) a case of rupture of the urethra treated with ice-bags to the perinæum, the aspirator being used to draw off the urine from the bladder through the abdominal parietes daily from the second to the sixth day after the injury, both inclusive. The case recovered speedily and with so little trouble as to leave nothing to be desired. On the seventh day a No. 7 catheter was introduced into the bladder.

DISTURBANCES OF THE SKIN IN PROGRESSIVE MUSCULAR ATROPHY.

DR. BALMER (*Archiv der Heilkunde*, 1875, p. 327) has collected a series of cases of this disease which were distinguished by disturbances of nutrition in the skin of the atrophied parts. The changes were mainly trophic disturbances upon the hands, tendency to inflammation of the bed of the nails, splitting and thickening of the nails, excoriations, fissures, ulcerations, and sometimes blisters upon the skin. Œdematous and inflammatory swellings of the cutis and panniculus adiposus were also observed. The skin was at times livid, uniformly or in streaks. Hæmorrhages were observed too, and excessive perspiration of the hands. These cutaneous changes, the writer thinks, cannot be explained satisfactorily on Friedrich's theory of the myopathic genesis of the disease, but confirm the correctness of the views of those who regard progressive

muscular atrophy as the result of disturbances of the sympathetic. In the cases recorded, at least, he regards the muscular atrophy, as well as the changes in the skin, to have been due to degeneration of its trunk, ganglia, and branches, or to functional disturbance of its vaso-motor and trophic centres.—*Boston Med. and Surg. Journ.*

IODOFORM.

DR. LAZAUSKY (*Vierteljahresschrift für Dermatologie und Syphilis*, 1875, p. 275), assistant at the skin clinic at Prag, contributes an article on the therapeutical use of this substance, founded on its employment by Dr. Pick in one hundred cases of specific ulcers, ulcerations after buboes, ulcerating and moist condylomata, ulcerations after gummata, and ulcers of the leg. It was used externally in the forms of fine powder, suspension in glycerine and alcohol, and solution in ether (one part in fifteen), and internally in pill form. Its advantages over other methods are thus stated:—The duration of the treatment is materially shorter; the methods of application are very convenient, and therefore adapted to private practice; if economically used its high price is of little importance, because so little is required. To this end it should not be used in its state of coarse powder, but should be rubbed up as fine as possible. Its solution in ether is still better, as it can be applied more evenly, and the painted surface is immediately covered and protected by a fine, uniform coating of iodoform, which adheres firmly like collodion.—*Boston Med. and Surg. Journ.*

TREATMENT OF CHRONIC DIARRHŒA.

In the treatment of chronic diarrhœa, from whatever cause, Dr. Thomson has long relied upon the following pills:—

R. Terebinthinæ resin.,	.	.	3iij;
Argenti nitrat.,	.	.	gr. v.;
Pulv. opii.,	.	.	gr. v.
M. Ft. pil. lx.			

The one objection to these pills is the number of them that have to be taken—namely, three at a time three times a day. When pills cannot be taken, a drachm of the oil of turpentine in mucilage, with ten minims of laudanum to each dose, may be substituted. Dr. Thomson says he knows nothing better than the above-mentioned pill for the intestinal hæmorrhage of enteric fever.—*N. Y. Med. Rec.*, November 6, 1875.

GELSEMINUM SEMPERVIRENS IN TRAUMATIC TETANUS.

At a meeting of the Liverpool Medical Institution, on November 4, Dr. Spratley, of Rock Ferry, related two cases of traumatic tetanus

successfully treated by him in the Birkenhead Borough Hospital by means of tincture of gelsemium sempervirens. The symptoms, especially in the second case, which was that of a young man, were very severe, accompanied by pleurostothones and tight closure of the jaws, but began to yield as soon as the physiological action of the drug, as indicated by drowsiness and giddiness, was induced. In order to effect this, as much as forty-five minims had to be given for a dose, although from ten to fifteen minims would produce a similar effect in a healthy person.—*Med. Times and Gaz.*

DIAGNOSIS OF DILATATION OF THE STOMACH.

IN order to ascertain the capacity of the stomach, it is sufficient, according to Leube, to know to what level the greater curvature of the stomach descends, and the best means of ascertaining this level would be to introduce a sound into the stomach as far as possible, and to endeavour to feel its extremity by palpation through the abdominal walls. The lowest limit which the extremity of a stomachal sound introduced into a normal stomach can reach is the level of the umbilicus. In proportion, then, as this limit is exceeded, the stomach is dilated.—*Deutsch. Archiv. f. Klin. Med.*, and *Rev. des Sci. Méd.*, October, 1875.

CHALICOSIS PULMONUM.

F. RIEGEL (*Deutsch. Arch. f. Klin. Med.*, XV., and *Centralblatt*, No. 49) gives the chemical analysis of the lungs of four stonecutters affected with pneumonia, one of whom—a young man of twenty-six—had died from an intercurrent attack of pneumothorax. On reduction, the lungs (two of which had been for a considerable time in spirit) gave the following per centage of ash:—No. 1, 3·94; No. 2, 5·22; No. 3, 4·58; No. 4, 5·57. Of the ash, silicic acid formed in No. 1, 41·38 per cent.; in No. 2, 37·47 per cent.; in No. 3, 38·48 per cent.; and in No. 4, 58·38 per cent. In order the better to observe the contrast, normal lungs were in like manner submitted to chemical analysis. The first specimen was taken from an infant four weeks old, and gave 4·1 per cent. of ash without a trace of silicic acid; the second, from a boy four years of age—3·71 per cent. of ash, in which was 2·44 per cent. of silicic acid; the third, from a labourer aged forty-seven, gave 4·35 per cent. of ash, with 13·39 per cent. of silicic acid; the fourth, that of a cook sixty-nine years of age, produced 5·46 per cent. of ash, containing 16·69 per cent. of silicic acid.

J. M. F.

THE DUBLIN JOURNAL

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MEDICAL SCIENCE.

APRIL 1, 1876.

PART I.

ORIGINAL COMMUNICATIONS.

ART. XV.—*Biliary Colic, with Cases.** By THOMAS HAYDEN, F.C.P., &c.; Physician to the Mater Misericordiæ Hospital.

CASE I.—Mrs. R., a lady, aged about fifty, and of sedentary habits, experienced, in the early part of 1874, anomalous sensations, scarcely amounting to pain, between the scapulæ and in the back of the neck and head. She likewise complained, especially after meals, of a feeling of fulness and tension at the epigastrium, accompanied by a thrilling sensation, which had latterly ended in severe colicky pains extending to the back. There was tenderness at the epigastrium and along the right costal border, also slight extension of hepatic dulness. The tongue was habitually loaded, the stomach inflated, and the bowels confined. Left decubitus was attended with slight discomfort; the conjunctivæ presented an icteroid tint, and the urine was loaded with amorphous lithates.

On the 1st of March, after a sharp attack of pain at the epigastrium, radiating to the back, and accompanied by spasm of the abdominal muscles and vomiting, she passed at stool two small angular gall-stones (box No. 1), for which her servant had been directed to search.

On the following day she was slightly jaundiced, the urine was deeply tinted with bile-pigment, the abdomen was tender, and a feeling of soreness existed along the back of the neck.

* Read before the Medical Society of the College of Physicians, Wednesday, Feb. 9, 1876.

A few days later she passed a third calculus (box No. 2), after a series of symptoms similar to the preceding; and on the 10th of March, after an attack of the most excruciating pain, with collapse, in which I feared she would have sunk, the two angular calculi, with the accompanying fragments (box No. 3), were discharged. On this latter occasion I was hastily summoned to her aid, and succeeded in relieving her pain, and inducing reaction, only by means of the warm bath, the hypodermic use of morphia, and large doses of brandy, ammonia, and ether.

The patient was now reduced to a state of extreme debility and emaciation from pain, which was constant and liable to exacerbations, and from want of food and sleep. She had, however, no such severe visitation as that of the 10th of March. No more gall-stones were found, but from time to time a quantity of gritty *débris*, representing disintegrated calculi, was obtained from the night-chair.

Under a course of Vichy water, and the frequent use of purgatives, consisting mainly of aloes and belladonna, this lady gradually recovered appetite and flesh. In the autumn of 1874 she spent several weeks in Harrogate, where she took the baths and drank the waters, commencing with the sulphur, and ending with the alkaline chalybeate spring (Kissengen). She has had no return of her former symptoms since May, 1874, and is now in perfect health, but under certain restrictions in regard to diet—fats, sweets, made-up dishes, salads, and malt drinks, being strictly prohibited, whilst active exercise daily out of doors, and an occasional warm bath, are enjoined.

CASE II.—Miss H., aged twenty-five, was treated for biliary calculus in the Mater Misericordiæ Hospital, by my colleague, Dr. Nixon, in April, 1875. She subsequently came under my care, and, after leaving the hospital, sought my advice and assistance as a private patient.

A year previously, while attending her cousin, a dispensary medical officer in the west of Ireland, through an attack of typhus fever, she suffered much from anxiety and want of sleep. Soon afterwards she began to suffer from a feeling of discomfort in the region of the liver and stomach; the bowels became confined, the appetite failed, the tongue was habitually loaded, and she lost flesh and colour.

In the early part of 1875 she experienced several brief attacks of

sharp pain at the epigastrium, accompanied by sickness of stomach and spasm of the abdominal muscles, and followed by slight and evanescent jaundice.

When I first saw her in hospital she was much reduced in flesh, and subject, at irregular intervals, to severe paroxysms of hepatic colic. She was slightly jaundiced, the urine was bile-tinted, and the liver tender and somewhat enlarged. Between the first week of May and the end of October, during which time she was under my care, she suffered repeated paroxysms of hepatic colic of the most aggravated character. These attacks occurred at irregular intervals, and were usually determined by some trivial indiscretion in the use of food or drink. She was very weak, and her craving for food and stimulants proportionately urgent, but whenever she indulged her appetite, even to the extent of a few morsels, for certain articles—pork, soup, pudding, pie, &c.—or took a glass of sweet wine, she was sure to be visited by one of her usual paroxysms in the course of the succeeding night.

She complained especially of burning pain in the back, located at either side of the dorsal spine, and extending to the root of the neck. Pressure alleviated this pain in some degree, but complete relief was obtained only from the warm bath, large doses of morphia and comp. spirit of ether, or hypodermic injections of morphia.

She took the natural alkaline waters very freely, likewise mild bitter tonics, and, daily, small doses of extract of aloes and belladonna.

During this period she passed from the bowels large quantities of sabulous matter, amongst which the particles now presented were found. Those marked No. 4 were passed between the 1st and the 6th of May; they consist mainly of raspberry seeds, with some pieces of apple-core and orange seeds, and small dark masses of inspissated bile. Between the last-mentioned date and June 22nd, the seeds and fragments of the core of small fruit, blackened by the intestinal gases, were passed in quantity (box No. 5); and from June 22nd to August 13th several bodies of the same kind, with some particles of inspissated bile, were passed (box No. 6).

In August she took lodgings in Sandymount, and availed herself of the baths. Her health gradually improved; the jaundice, which was always more pronounced after a paroxysm, became sensibly less marked; and the patient gained flesh and spirits. She was, however, still liable to be attacked after a full meal, and the apprehension made her unhappy. I advised her to try the Bath

waters, and succeeded, through my friend, Dr. Falconer, of that city, in procuring for my patient admittance into the Mineral Water Hospital.

I recently heard from her. She has had a full course of the waters, including the baths and the douche. She reported herself as greatly improved in health, and quite free from the paroxysms, though yet suffering somewhat from a feeling of soreness in the back.

CASE III.—M'E., a schoolmaster, from the north of Ireland, aged about forty, was received into the Mater Misericordiarum Hospital in January, 1869. He was robust, and apparently in good health; but for some weeks previously he had been suffering from sharp colicky pains in the abdomen and back, which came on quite suddenly, seeming to have reference rather to the state of his stomach than of his bowels, were occasionally attended with vomiting, and ceased as abruptly as they had commenced. The man's habits were sedentary, his appetite was good, and he had indulged it.

From the history and symptoms, the diagnosis of biliary colic was made. A few days afterwards, and following a paroxysm, slight jaundice appeared, the urine being at the same time coloured with bile.

Several such attacks occurred. The man was directed to use the night-chair, and to search the stools for gall-stones. He soon afterwards produced the large stone (No. 7), and within a few days the two of smaller size and the accompanying fragments. The large stone is rough on the surface, and sparkles with cholesterine, it weighs 9 grs., is remarkably hard and brittle, and, as seen in fracture, is composed almost entirely of crystalline masses of cholesterine.

The man soon afterwards got quite well, and left hospital in March free from all his symptoms.

CASE IV.—A gentleman, aged thirty-three, of studious habits, and in general good health, was attacked with anomalous thrilling pains in the upper regions of the abdomen in the autumn of 1857. For a year previous to this date he had been in the habit of indulging in hash and rich gravy at breakfast. These pains soon became more frequent and more severe, and after the lapse of a few months they assumed the proportion of paroxysms of the most aggravated character. They usually commenced with a

thrilling at the epigastrium; this was soon followed by severe burning pain, extending to the back, and fixing in the region of the right scapula; the abdominal muscles became rigid, and the pulse feeble and infrequent from the severity of pain; vomiting usually occurred. After a period of one to two hours the pain ceased rather abruptly, and the patient immediately fell asleep from exhaustion. Concurrently with the severe attacks of pain, slight jaundice appeared, and the urine contained bile-pigment.

These seizures continued to recur for nearly twelve months; relief being obtained only from the warm bath, in which the patient not infrequently went to sleep.

He passed a month at Vichy in 1858, where he took the baths and drank the waters (Grande Grille and Celestins), and after returning to Dublin commenced a course of walking exercise. He accomplished six miles every morning before breakfast; this he continued to do for eight months, and then, feeling quite well, and having had no attack for more than twelve months, he discontinued his pedestrian practice, but continued for some months longer to avoid fats, sweets, minces, and malt drinks. Within the period of eight months he had walked nearly fourteen hundred miles. This gentleman still enjoys good health and complete exemption from biliary colic; and for the last few years he has been able to take every kind of food with impunity. The ten calculi marked No. 8 were passed by him at intervals in the early part of 1858; they are, as will be seen, of the size of duck-shot, a few smaller, mammillated on the surface, and composed mainly of cholesterine; one which has been broken glitters in fracture. Viewed through a magnifying-glass they resemble small unripe raspberries. From their small size and tuberculated surface, I am disposed to regard them as examples of hepatic calculi moulded in the small and fenestrated biliary ducts.

CASE V.—Of the history of this case I know very little. The patient, a fat cook, aged sixty-six, was treated for obesity and general debility in the Mater Misericordiæ Hospital, in September, 1867. There was no history of colic, and no jaundice. The patient died on the 30th of September. The heart was found to be remarkably fatty, and the gall-bladder contained forty-five calculi, dark brown and faceted, and varying from the size of a pea to that of a bean. They are submitted in box No. 9.

CASE VI.—Miss C., aged about forty-five, informed me in 1866 that she had been treated in the Meath Hospital for abscess connected with the gall-bladder, and that the abscess had been opened, and several gall-stones removed by the late Mr. Smyly.

When she consulted me there was a fistulous opening in the right hypochondrium, from which thin bile-stained pus was discharged in small quantity. The edges of this opening were callous, the surrounding skin erythematous, and the right hypochondrium generally was full and tender.

A probe introduced into the fistula came in contact with a calculus about two inches from the orifice, but it could not be made to pass this obstacle. Behind the calculus there was manifestly a collection of pus and bile, from which a small quantity continued to be filtered through and discharged.

I proposed inviting surgical assistance, with a view to removing the obstruction, either by drilling a hole through the stone, or by slitting up the fistula and removing it entire. Unfortunately, the patient hesitated to yield assent, owing to the great suffering she had already undergone. Meantime, symptoms of pyæmia were set up, and she died comatose within a few days.

CASE VII.—A lady, aged fifty, of a gouty family, and presenting in her own person, from time to time, symptoms attributable to undeveloped gout, was attacked with biliary colic in the early part of 1873.

The paroxysms were at first sharp but brief, attended with vomiting, and followed by slight jaundice. She recovered perfectly in the intervals, the jaundice entirely disappearing; but a certain feeling of discomfort, with tenderness at the epigastrium and beneath the right costal border, remained.

The paroxysms soon became more frequent and more protracted; the patient lost flesh from want of sleep and food, and the jaundice, which had latterly assumed an olive tint, continued between the paroxysms. The urine was, throughout, deeply coloured with bile. After an illness of three months' duration she became feverish, had several rigors, and then passed into a state of coma in which she died within forty-eight hours.

An examination of the body was not permitted, and no calculus was found in the dejecta, yet the symptoms left no doubt as to the nature of the disease. Judging from the character of the

symptoms during the last three days of the patient's illness, I incline to think death was caused by portal phlebitis and pyæmia.

The foregoing are the only cases of colic due to biliary calculus of which I have preserved notes. I must, however, have seen at least two dozen additional examples of the affection, which is by no means uncommon. Most practitioners are well acquainted with it; still it is occasionally obscure, and, I doubt not, frequently mistaken for ordinary colic, gastralgia, and muscular rheumatism.

A few words as to the diagnosis, supplemented by some remarks on the treatment of the disease, will, therefore, not be out of place.

An attack of biliary colic is usually preceded, for several months, by flatulence, acid eructations, and a sensation of fulness and discomfort in the region of the liver some hours after meals. The bowels are constipated, and the urine exhibits from time to time a copious deposit of urates. Anomalous pains of a remittent character, referred to the back and nucha, are likewise frequently complained of. The earliest intimation of an actual seizure consists in a thrilling sensation at the epigastrium. This is soon followed by colicky pain radiating through the hypochondria, and extending to the inferior angle of the right scapula, where it is felt with especial severity. The abdominal muscles become rigid, the stomach inflated, and gaseous eructations and vomiting occur without relief to the patient's sufferings. The pain is remittent and paroxysmal, and of the most excruciating character; it usually lasts several hours, but may continue for a much longer period, and then ceases quite abruptly. The pulse, during a severe paroxysm, is slow and very feeble; the surface cold and bathed in perspiration. Within twenty-four hours after the attack there is usually jaundice, and the urine is coloured with bile whilst the fæces exhibit a want of it.

The recurrence of these attacks is uncertain as to time, but liable to be determined by indiscretion in diet, and by violent succussion of the body. The earliest are supposed, on theoretical grounds, to be the most severe; but I think those which occur at a somewhat later period, the third or the fourth, are usually attended with still greater suffering and prostration.

Jaundice is not infrequently absent after the earlier paroxysms. But even in such cases the diagnosis cannot be difficult, if due weight be given to the special symptoms—thrilling at the epigas-

trium, followed by pain of a spasmodic character, extending to the right scapula, accompanied by sudden inflation of the stomach and vomiting, and abruptly ceasing after some hours; hepatic dulness being somewhat extended, with corresponding tenderness to pressure.

The smooth, round, and yielding tumour mentioned by authors, as formed by the distended gall-bladder, cannot be felt during a paroxysm owing to the tension of the abdominal muscles; and even during the intermissions, except in cases of extraordinary distension, the evidence furnished by this symptom is eminently inconclusive.

In cardialgia there are other symptoms sufficiently distinctive of gastric dyspepsia; the pain due to this cause commences soon after food has been taken, whilst that of hepatic colic not for some hours.

During a paroxysm the bowels should be unloaded by a turpentine enema, and the patient should be placed in a warm bath of 105° F. If relief be not thus obtained (an event which I have never witnessed), or if the bath cannot be readily provided, a hypodermic injection of a quarter of a grain of morphia should be given. In the intervals, a few grains of blue pill with extract of belladonna and dried soda should be given thrice daily, and occasionally a rhubarb or seidlitz draught. Chloroform may likewise be administered by inhalation, but short of anæsthesia, during the attack; it is, however, less efficacious than morphia given as proposed, and the relief which it affords is of shorter duration.

I have not tried sulphuric ether and spirits of turpentine, as recommended by Durande, nor do I think the stomach would be likely to tolerate it; neither have I, for the same reason, given chloroform by the mouth, as suggested by Bouchu, or Prout's favourite remedy, large doses of a dilute solution of bicarbonate of soda. The general treatment, with a view to cure, should have reference chiefly to diet and exercise. Fats, sugar, hot bread, malt drinks, highly-spiced dishes, and rich soups, should be avoided. Claret and the alkaline effervescing drinks, soda and seltzer water, should be freely used. Green vegetables, especially spinach and broccoli, likewise fresh ripe fruit, and plain pudding without fruit, may be used. Food should be taken in moderate quantity and frequently, the bowels should be moved at least once daily, and, above all, active exercise out of doors, as far as practicable, should be systematically pursued. The natural alkaline waters

should be used, both internally and by the bath, for one or two seasons; those of Vichy, Carlsbad, and Marienbad are the best.

The great preponderance of biliary colic amongst females, as compared with males, has been remarked by most writers on the subject. Of the seven examples which I have given, the patients were females in five instances, and the great majority of the other cases which have come under my notice belonged likewise to the female sex. Furthermore, in every instance except Case V., the female patients were of the better classes. It is not unreasonable to conclude that the sedentary habits of ladies, and their highly artificial dietary, are, in a great measure, chargeable with this result.

Gall-stones are mainly composed of cholesterine and inspissated bile, with mucus, and salts of lime. These now presented to the Society exhibit this constitution. In addition to the calculi obtained from the patients whose cases I have just reported, I beg to submit for comparison a number of others procured in the dissecting-room, and from the gall-bladder of the ox.

It will be observed that in this paper, which is of a purely clinical character, I have eschewed the pathology and the chemistry of gall-stones. The subject in its general bearings is much too large for a brief memoir. It has been adequately and ably treated by Fauconneau Dufresne, Frerichs, Trousseau, Prout, Budd, Murchison, and quite recently by Dr. Hilton Fagge—all of whose writings may be profitably consulted.

ART. XVI.—*A Case of Intestinal Obstruction, in which the Abdomen was several times Punctured.** By ARTHUR WYNNE FOOT, M.D., T.C.D.; Senior Physician, Meath Hospital; Fellow and Censor, King and Queen's College of Physicians, &c.

THE following very troublesome case of intestinal obstruction seems to me to present several features of clinical interest and practical importance. During its course I considered it necessary to puncture the intestines several times; this procedure was attended with immediate relief of the most urgent symptoms, and, in all probability, mainly contributed to the complete recovery of the patient.

The subject of this case was a boy, thirteen years of age, who,

* Read before the Dublin Biological Club.

after an indiscreet indulgence in cakes and sweets, was attacked with symptoms of intestinal obstruction. He was a delicate, much indulged, and only child; he suffered from great irregularity of the bowels, and had been twice previously under my care for attacks of jaundice, the result of over-eating. The foundation of the present attack was probably laid during the Christmas week, as he began to look unusually ill at that time. A children's party on New Year's Day aggravated his indigestion. On 8th January, 1876, he became seriously ill with sudden constipation, accompanied with pain and swelling in the cæcal region. He was kept in bed, and poultices and stupes diligently applied to the abdomen. Enemata of various kinds were constantly and carefully employed, without producing any satisfactory motions from the bowels. Purgatives of different sorts were given by the mouth, including castor-oil, scammony, calomel, and croton-oil. These were, after a while, invariably vomited; the discharges from the stomach, after the administration of seven grains of calomel, were notably bilious. The stomach retained broths, wine, and tea, but milk was always rejected in curds.

The distension of the abdomen became daily greater; increase of pain was not commensurate with the distension; although the pulse became small and rapid, averaging 125, the temperature did not become high. Urine was freely secreted all through, an indication that the seat of obstruction was in the large intestine. As soon as active purgatives had failed to overcome the obstruction, they were discontinued, and five minims of the liquid extract of opium were given by the mouth every fourth hour. Notwithstanding the constant use of the opiate, he became totally unable to sleep, moaning and frequently shifting his position all night; his expression became pinched and haggard. On the 14th January he had several convulsive attacks. Fresh efforts were made to move the bowels with scammony and enemata without success. Poultices, fomentations, hot dry flannels, and hand-rubbing of the abdomen with warm oil, had been constantly persevered in. On the 16th the abdomen, which had been daily increasing in size, was distended like a drum, raising his bed-clothes in a heap; it was tense, elastic, and universally resonant in the highest pitch; the xiphoid cartilage was bent forwards, the thoracic viscera displaced upwards; he could hardly breathe, and was harassed with ineffectual attempts to vomit; the pulse was small, rapid, and flickering; he had been long without sleep, and was extremely weak.

Feeling sure that, tenacious as children are of life, this delicate boy could not hold out much longer, and that the only means of restoring the contractility of the intestine was to remove the cause of its paralysing distension, I proposed to puncture the abdomen. The suggestion was at once agreed to, as the condition of the boy begging for relief was most torturing to his parents. On the afternoon of the 16th January I made three punctures in the supra-umbilical region of the abdomen with the finest trocar and cannula of Dieulafoy's aspirator. Upon the first puncture gas hissed out rapidly through the cannula immediately on the withdrawal of the trocar; when the air had ceased hissing out the syringe was attached, and more gas was pumped out until thin ochreous fæces appeared in the glass receiver; the cannula was then quickly withdrawn with a rotatory movement. In the second puncture, aimed at an adjacent coil of intestine, I did not penetrate the bowel, the trocar probably pushing the bowel before it, or passing between two coils of intestine; no gas or liquid could be withdrawn through the cannula, plunged in as far as its length admitted of. A third puncture was made midway between the umbilicus and xiphoid cartilage, and gave exit to a quantity of gas, which filled the room with the characteristic odour of intestinal flatus, and was followed by a marked, though partial, subsidence of the epigastric prominence, and a decided relaxation of the abdomen. Almost immediately afterwards he fell asleep, and slept for three-quarters of an hour; he had not had ten minutes sleep at a time for many days and nights previously. When he wakened he said at once the operation had cured him. Fearing the re-accumulation of the gas, I did not venture to share in the hopes which his great relief had excited. Not a trace of blood appeared externally at the seats of puncture; they gave him no pain at the time. He did not say a word during the insertions of the trocar, though he was quite conscious, and not at all narcotised by the opium which he had been taking daily. No preliminary incision of the skin was made, as I thought it would have split or cracked, it was so tightly stretched. The proceedings occupied about five minutes. No adhesive plaster was put upon the punctures, which were hardly visible; a large but light and soft linseed meal poultice was laid all over the abdomen, and secured with a binder. The punctures were made on the afternoon of the 16th January; on the 18th he had a sensation as if the bowels were going to move, but there was no evacuation, even of wind. No new pain or symptom of inflam-

mation had occurred subsequent to the punctures; on the contrary, he said he felt much better; the distressing efforts to vomit had ceased; he slept a great deal in lengths of three-quarters and a hour at a time, taking wine and beef-tea when he wakened, and going to sleep at once again. The distension of the abdomen, though still very great, remained much less than it had been; the expression of his face was much less anxious, the skin continued cool, and urine was freely excreted. The pulse remained between 120 and 130. The liquid extract of opium had been continued in doses of five minims about every fourth hour, but the pupils were not contracted, and the head quite unaffected.

On the 19th January, thinking the induced current might assist muscular contraction, now that the over-distension had been somewhat relieved, I employed it carefully and patiently for half an hour in various ways. A piece of a wax candle was put into one of the brass cylinders of Gaiffe's induction apparatus, the projecting piece of candle scraped to a point, and the whole, oiled and warmed, was inserted completely into the rectum; with the other conductor a large sponge wetted with warm salt water was applied over different parts of the abdominal parietes. Encouraging borborygmi were heard, and movements of the abdominal muscles and of the intestines seen. A bougie, traversed by a copper wire and ending in a copper knob, was then introduced into the rectum to a higher point than the cylinder had reached, and the circuit completed on the abdomen as before. Both conductors were then applied externally to opposite sides of the abdomen; and the current was also passed from the spine to the umbilical region. In each of these ways as strong currents as he could bear were used. Three hours after the Faradisation he vomited about six ounces of a thick, ochreous, sour, and semi-fæcal-smelling matter, similar to the ordinary contents of the jejunum and upper part of the ileum; I feared that the Faradisation had excited an inverse peristalsis, but in the afternoon of the following day (20th June), twenty-four hours after the use of the electricity, he passed, by the rectum, one large hard grey lump, followed by a copious fluid stool of ochreous fæces, and got rid of a large quantity of wind both up and down. After these discharges he was able to lie on one side, the right, for the first time since he had been ill; and this change of position relieved him very much. He had mild delirium this evening, and the opium was stopped. During the night (of 20th) he was restless and delirious, seeing imaginary people about his

bed, and calling out to them. The following morning (21st Jan.) the bowels moved at 8½, and twice again before noon—orange-coloured, pasty, and pultaceous discharges. The expression of the face was much improved, and there was some re-appearance of colour in his cheeks. The abdomen, which was still kept covered alternately with linseed meal poultices and warm dry flannels, had by no means been satisfactorily reduced in size, though the urgent distress caused by tympanites had been relieved, and the skin was getting tender from the frequent applications. The bowels acted many times by day and night on the 21st and 22nd January, but there was also great secretion of gas, which produced loud borborygmi and much colicky spasm. The gas exhibited more tendency to escape upwards than downwards, and the boy invented a way of relieving himself by pushing a feather down his throat. This did not induce vomiting, as the irritability of the stomach had subsided, but enabled him to get rid of great quantities of wind. It was almost amusing to watch the eagerness with which he called for the large goose-quill he used for the purpose, and the readiness with which he pushed it half way down his neck, rooting about with it till the wind belched loudly up. He would not let anyone do this but himself; and was quite impatient if the feather was not beside him the moment he wished for it. On the 23rd January, to get rid of some of this flatulence, he was given *Ol. Ric.* ʒss., *tr. rhei.* ʒi., *Es. menth. pip.* ʒss., in hot brandy and water; this produced five or six motions more gray than yellow, which they had hitherto been. However, during the night, after the administration of the oil, there appeared a great re-accumulation of gas, the distension of the abdomen increased, colicky pain became severe, the borborygmi became loud and frequent, and the bowels stopped acting. On the following day (24th January) the tympanites had returned in its most severe form, and he earnestly entreated relief; he said, "You must let out the wind again." I punctured the abdomen in the middle line of the epigastrium, half way between the umbilicus and xiphoid cartilage, with the same trocar as on the previous occasions. The trocar was inserted obliquely inwards and downwards; he was well elevated in bed; resistance was distinctly felt before the trocar pierced the intestine; it required very strong pressure, probably from tight claspings of the instrument by the tissues of the abdominal wall. Immediately on the withdrawal of the trocar much gas fizzed out through the cannula, then air and liquid spluttered from its orifice; the syringe was then attached, and twice filled with thin

grayish liquid; more could not be withdrawn, probably from the fluid being too thick to come through the small cannula. The manœuvre was tried of forcing back some of the contents of the syringe, so as to free the distal end of the cannula, but it was not effectual. As sufficient gas had escaped to relieve the distension, no more punctures were made; the wound was treated as before. He expressed himself as greatly relieved, and had a very good night. On the following day he exhibited a desire for milk, which he had refused for a long time on account of his always vomiting it in curds, but it was returned as usual soon after it had been swallowed, and the act of vomiting produced smart local pain at the seat of the recent puncture. He was put again on the opium mixture; whenever he changed his position the wind and water were heard rolling about in him as in an empty barrel. The same evening he passed a hard lump from the bowels, and afterwards a long cylindroid mass of pasty fæces. Next day he drew my attention to the fact that the rumblings began in the left iliac fossa, and ran round the abdomen in the tract of the colon. On the 27th January he was decidedly better, and for the first time the general condition of the belly was softer and less swollen, but the subsidence of the tympany revealed evidences, in dulness and vibration, of some fluid in the inferior region of the peritoneal cavity. He eat an egg and some bread and butter this morning, and was passing evacuations of the colour and consistence of putty, with wind both up and down. Enemata of warm water were used, but seemed to provoke vomiting of matter similar to the usual contents of the small intestine. He soon began to recover rapidly, passing from five to ten motions from the bowels in the twenty-four hours, the abdomen gradually returning to its natural form and size.

On the 1st February the pulse for the first time was under 120; on the 3rd he was up for two hours in the evening; on the 14th was able to walk about his room, and on the following day was out in the garden for a short time. 19th February he was ordered as a tonic mixture—*Liq. ext. cinch. flav. ʒiii., ac. mur. dil. ʒiss., syr. lim. ʒi., inf. caryophyl., ad ʒviii. ʒss. t. d.* Since then he has as quickly as possible regained his usual health and spirits.

In the foregoing case the object desired in puncturing the intestine was of a curative nature. By relieving the muscular tissue from the excessive strain caused by over-distension, its contractile power would be restored, and the removal of a temporary obstruction thereby promoted. This object may be defeated clearly when the

amount of gas evacuated is insufficient to procure relief, or when the gas re-accumulates so rapidly that the benefit of its removal is too transient to be of practical use. Demarquay has been obliged to repeat the puncture eleven times, owing to rapid re-accumulation of the gas. As a palliative proceeding in cases of insuperable obstruction, its simplicity has much to recommend it. The puncture of the intestine for the relief of tympanites is by no means modern. According to Sprengler, in his "*Histoire de la Médecine*," Vol. IX., p. 181, François de Paule Combalusier was the first who successfully employed the trocar in tympanites. A French translation of Combalusier's work, "*Pneumatopathologia*," appeared in 1754. M. Fossangrives communicated to the French Academy of Medicine, in August, 1871, a paper in which he quotes eighty-four cases in which puncture of the intestines has been practised for tympanites. Acute inflammation does not seem to have added any risk to the operation. M. Depaul communicated to the Surgical Society of Paris, on May 3rd and 10th, 1871, a case in which successive punctures of the transverse colon, in a case of acute puerperal peritonitis, with vomiting and considerable tympanites, gave great relief, the patient ultimately recovering. There are other reports of its performance in midwifery practice by Dr. Braxton Hicks in the *Obstetrical Transactions* for 1869. In chronic peritonitis, supposed to be tubercular, and in a boy aged three, great and immediate relief followed the puncture, and again when re-accumulation made it advisable to repeat it, and the patient recovered. In tympanites, connected with dysentery, the puncture has succeeded in saving life, and in such cases, from the nature of the lesions, one might naturally hesitate to puncture.

My colleague, Mr. Smyly, has kindly referred me to the following case in his father's manuscripts:—"Mrs. E. was almost at the point of death from obstruction and flatulent distension of the bowels, when Sir Philip Crampton was called in to see her; Sir H. Marsh and Mr. Cusack had tried every means ineffectually. Sir P. Crampton proposed to puncture the colon through the abdominal parietes with a small trocar and cannula, which was acceded to, and a large explosion of gas took place, attended with immediate relief, and followed by free evacuation of the accumulated fæces. Sir Philip Crampton's idea was that the colon was bent upon itself, and that unless the gas was evacuated no passage could be obtained for the pent-up contents of the bowels."

From the frequency with which the large intestine has been

operated on, the proceeding is frequently described in the periodicals as colo-puncture. I believe it was the small intestine which was punctured in my case, but the stomach may be the part of the alimentary tube requiring relief. Olivier reports the cases of twenty persons who suffered from symptoms of extreme distension of the stomach, producing death by suffocation. The cause of the disease appeared to have been overloading of the stomach with half-cooked vegetable food, and drinking a badly-fermented liquor, called *chicha*, prepared from maize. The cases occurred in Bolivia, in South America. He operated on twenty persons, of whom eight recovered completely in three weeks; the paracentesis of the stomach gave exit to a great quantity of most offensive gas and fermenting chyme. It was thought the others died from not having been submitted to treatment till too late.*

In connexion with the subject of puncturing the intestine, mention is frequently made of the performance of abdominal puncture upon domestic animals. The conditions are not quite similar, as has been pointed out by Mr. M'Bride, Lecturer on Veterinary Medicine and Surgery in the Royal Agricultural College, Cirencester.^b In the ox it is not the intestine which is punctured, but the rumen or first stomach, which does not appear to be very liable to inflammation. It is customary with veterinary practitioners not only to puncture it, but to incise it to the extent of seven or eight inches, and remove its contents by the hand (occasionally removing about 112 lbs. in weight), and then introduce medicinal agents, at times using a flour-dredger to dredge the internal surface of the stomach with powdered *nux vomica*, &c. Puncture of the colon for tympanites has been performed on the horse, though with very little success. The intestines of herbivorous animals contain a large quantity of fluid, which during the very violent struggles of the animal is nearly certain to pass into the peritoneal sac. He thinks the operation much more likely to be useful in men than in the lower animals.

The two risks which would appear to attend on puncture of the intestine—fecal extravasation and a wound of the peritoneum, perhaps already inflamed—do not seem to be practical drawbacks. The puncture with a proper instrument is closed by muscular contraction, or by the protrusion of mucous membrane, as shown by Travers; and the inflammation of the peritoneum

* Year Book. Syd. Soc. 1861. 213.

^b Brit. Med. Journ. 4th Nov., 1871. P. 527.

seems to have no influence on the success of the operation. In a case of Mr. Teale's, in which the patient succumbed to double pneumonia, no traces of the punctures could be discovered but on the outside of the body. In the case above related I believe it was the small intestine I punctured. The obstruction seemed to have originated in the cæcum; the secretion of urine was abundant and regular; vomiting was neither an early nor a very urgent symptom; the pain was less acute, and the course more gradual than in obstruction of the small intestine; the distension of the abdomen was uniform, and there was no special tympanites in the colon regions. In making the punctures the boy was half sitting up in bed, so as to facilitate the puncture being made in the highest part of the bowel from above downwards, and avoid the spluttering which would result from introducing the cannula below the level of the fluid contents of the bowel. The force required is much greater than one would expect.

In connexion with the subject of puncture of the intestine, the following reflections suggest themselves:—The puncture may be curative or palliative; necessity for even its frequent repetition is very likely to arise; that it is a very old proceeding, and has frequently been employed; that neither acute nor chronic peritonitis is necessarily a contra-indication; that it seems to be more successful than the somewhat analogous operation in oxen and horses; that the risks of fæcal extravasation or peritonitis appear to be very small; and that the part of the canal to be operated on does not materially influence the performance or the success of the operation as a palliative or curative proceeding.

ART. XVII.—*On the Antiseptic Power of Salicylic Acid and certain of its Compounds, compared with other Antiseptics, therapeutically considered.** By EDWIN LAPPER, F.C.S., L.K.Q.C.P.I.

THIS substance has lately attracted a considerable amount of interest, both as a triumph of inductive chemical research and as a reputed therapeutic agent of high value. A great diversity of opinion exists with regard to its antiseptic power, as the following few extracts from writers on the subject will demonstrate:—

Kolbe, the discoverer of the beautiful synthetical process by which it is obtained, by treating a mixture of phenol and sodium

* Read before the Medical Society of the College of Physicians, Wednesday, March 8, 1876. [For discussion on this paper, see p. 362.]

with carbonic acid, states that it possesses antiseptic properties of which its salts are devoid, and recommends that experiments should be made with it in contagious diseases.

Mr. Callender admits its utility, but considers it inferior to other antiseptics, and unworthy of the high reputation which has been awarded it.

J. Müller finds it very effective in preventing putrefaction and fermentation, and in stopping the action of unorganised ferments far more powerfully than carbolic acid.

Mr. R. Rother prefers benzoic acid to it, especially for preserving decomposable solutions, and brings forward some arguments to disprove of it being a disinfectant at all.

Feser states that the acid destroys all bad smells, as also does the salicylate of soda, but in a less marked degree.

Professor Salkouski believes it to be inferior to benzoic acid as an antiseptic.

Whilst Professors Friedberger, Zürn, and Fortheim give evidence as to the efficacy of the acid as a disinfectant and in the treatment of contagious fevers.

It was in the hope of being able to contribute towards the elucidation of this *quæstio verata* that I made some experiments to ascertain the antiseptic properties of salicylic acid and some of its compounds, as compared with others of well-known powers.

Freshly-drawn bullock's blood was defibrinated, and mixed with ~~two~~ part of its weight of the preservative substances; and to render the trial of greater value from a therapeutic point of view, one series of experiments was conducted at a temperature of 100° F., or that at which the substance would act on the living blood when administered as a remedy; whilst the second series was carried on at the ordinary temperature, or that at which experiments of the kind are usually made. I may here remark, that to render such trials of any value as indications of the efficacy of these kinds of remedies in zymotic diseases, I consider that the amount of the antiseptic operated upon should, as nearly as possible, bear the same ratio to the decomposable substances as a safe dose of the remedy does to the living blood. Assuming the *materies morbi* in this class of diseases to consist of animal or vegetable organisms, I am inclined to think that the doses, as at present employed, must be insufficient to act with any degree of energy upon them in such a large mass as the living blood. The researches of Hoppe Seyler show that the destruction of organisms is admir-

ably achieved by the use of 1 per cent. of phenol, but that 2 per cent. is required to put a stop to putrefactive changes.

The quantity of antiseptic I have employed in these experiments is small in comparison with that used by other experimenters, but still many times larger than is administered in disease, and I am not aware that any investigation relative to the powers possessed by this class of bodies has hitherto been made at the temperature of the blood.

The following Table exhibits the results :—

	Quantity of Antiseptic employed	Day on which the Blood became Putrid			
		At 100° Fahr.	Relative Power	At Air Temp.	Relative Power
Blood, <i>per se</i> , - - - - -	—	3rd	0	9th	0
Salicylic Acid from Oil of Winter Green, - - - - -	} $\frac{1}{1000}$	4th	3	9th	0
Salicylic Acid obtained by Kolbe's method, - - - - -		4th	3	10th	1
Kolbe's Acid dissolved in $2\frac{1}{2}$ times its weight of Phosphate of Sodium, -	} "	4th	3	10th	1
Salicylate of Potassium, - - -	"	4th	3	10th	1
Salicylate of Zinc, - - - -	"	4th	3	12th	2
Sulpho-salicylate of Zinc, - -	"	5th	6	10th	1
Carbolic Acid, - - - - -	"	5th	6	15th	6
Sulpho-carbolate of Zinc, - -	"	6th	9	10th	1
Benzoic Acid, - - - - -	"	5th	6	14th	5
Sulphate of Quinine, - - -	"	10th	21	14th	5
Bisulphite of Sodium, - - -	"	2nd	—3	9th	0

As would naturally be expected, the blood at the higher temperature became decomposed in a very much shorter time than at the lower. Hopper Seyler states "that the greater rapidity of putrefaction does not result from an increase in the number and rapidity of development of living organisms, but on the direct influence of temperature upon the putrefactive process itself." The chemical action inducing *eremacausis* is, of course, intensified and augmented by increase of temperature, but, *pari passu*, the preser-

vative action of most of the antiseptics seems to be increased in a far greater ratio.

It will be noticed that salicylic acid, in the proportion here used, seems to exercise but slight effect in preventing putrefaction, and the slight difference in the power of the synthetical acid, and that from its natural source may be attributed to the former, containing a trace of carbolic acid. The acid requires two and a half times its weight of sodium phosphate to effect its solution in water, and most probably the sodium salicylate and the acid phosphate of sodium are produced, as the quantity is very near to that which would theoretically be required to cause that decomposition, and I imagined that this might modify its antiseptic action, but the results show that it does not affect it. The salicylate of potassium seems to prevent putrefaction to the same extent as the acid itself, whilst the zinc salt acts in a like degree at blood heat, but at a greater at the ordinary temperature. With the zinc sulphosalicylate it is the reverse, its potency being greater at the higher than at the lower temperature.

Carbolic acid at the ordinary temperature stands pre-eminent, whilst at the higher it is inferior, as far as arresting putrefaction goes, to both sulpho-carbolate of zinc and sulphate of quinine. On examining by the microscope the blood, whilst warm and fresh from the animal, I found a few bacteria present, so that I could make no determinations of the period of their production, but on carefully examining them every day, I found, in the case of carbolic acid, their number increased very slowly, and they seemed to possess but a low degree of vitality, whereas in all the other cases they were very rapidly produced, and were extremely lively.

A very remarkable effect was noticed with the sodium bisulphite—at the higher temperature it caused the blood to become putrid one day before the blood *per se*, with evolution of much sulphuretted hydrogen; this is most probably to be attributed to the salt absorbing oxygen from the blood to become a sulphate, and thus disturbing the chemical equilibrium of the mass, inducing molecular movements most favourable to eremacausis, and it is quite possible that a great many of these unsaturated compounds, possessing undoubted antiseptic properties at the ordinary temperature of the air, may, at a higher temperature, promote, instead of retard, putrefactive changes. As this is a matter of great therapeutic importance, I shall make it a subject of future investigation.

Benzoic acid, at the higher temperature, holds the same position as carbolic acid, whilst it has slightly less efficacy at the lower.

Sulphate of quinine will be observed to occupy the highest place as an anti-putrefactive, but it does not seem to interfere with the production of animal organisms, although it is stated by several high authorities to prevent the formation of fungi. Adam Schultze says it puts a stop to fermentation and putrefaction, and by arresting the motions of the white blood corpuscles, prevents them making their exit from the vessels. It, therefore, diminishes or stops the formation of pus in inflammation—pus consisting, according to Cohnheim's theory, of white corpuscles escaped from the vessels. Dr. Binz corroborates this, by showing that quinine arrests the Brownian molecular movements. In its presence oxidation is retarded, and it destroys the property possessed by certain substances of producing ozone. The red blood corpuscles possess this power, and by depriving them of it quinine must diminish tissue change in the body, and reduce its temperature. It also lessens the amount of urea and uric acid excreted. Harley found that blood mixed with quinine took up less oxygen, and gave off less carbonic acid.

INFLUENCE OF ALKALIES IN DIABETES.

MM. GORNILLON and BRETET have published a series of experiments proving that the effect of alkalies in glycosuria is due to their diminishing the action of the salivary and pancreatic secretions on amylaceous material. Observing that trees watered with urine or other alkaline fluids will not produce sweet fruits, they injected into the portal vein of oxen, sheep, and swine, solutions of the carbonates of soda and potash with the following results:—

1. In examining the liver immediately after death, no glycogen was found.

2. If the injection was made after the death of the animal, the amount of sugar was not diminished by the alkali.

From experiments made by boiling the chopped pancreas of several animals with starch and alkaline bi-carbonates, they have been led to conclude that on glucose already formed alkalies have no action, but that they hinder its formation; but that they can diminish its production, by hindering the diastatic power of saliva and the pancreatic secretion, and that their action is more marked in the case of omnivorous than the herbivorous animals.—*Le Progrès Médical*.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

Cyclopædia of the Practice of Medicine. Edited by DR. H. VON ZIEMSEN, Professor of Clinical Medicine in Munich, Bavaria. Vol. V.—*Diseases of the Respiratory Organs.* By PROFESSOR JUERGENSEN, of Tübingen; PROFESSOR HERTZ, of Amsterdam; PROFESSOR RUEHLE, of Bonn; and PROFESSOR RINDFLEISCH, of Würzburg. London: Sampson Low, Marston, Low, and Searle, Crown Buildings, 188, Fleet-street, E.C. 1875. Pp. 712.

THIS volume will be found by all who study it attentively to be a most valuable addition to medical literature, whether regarded from a clinical or a pathological point of view. Like previous volumes of this Cyclopædia, it has been issued out of its turn, having taken precedence of Vol. IV., whose publication is for the present deferred, in consequence of unavoidable delay in Germany. With the exception of our fellow-countryman, Dr. Gerald Yeo, Professor of Physiology, King's College, London, the able translators are all American, and it is edited by Dr. Albert H. Buck, of New York.

Professor Juergensen is the author of the articles—"Croupous Pneumonia," "Catarrhal Pneumonia," "Hypostatic Processes in the Lungs," and "Embolic Pneumonia;" Professor Hertz of those on "Hyperæmia," "Anæmia," "Hæmorrhages," "Atelectasis," "Collapse," "Atrophy," "Emphysema," "Hypertrophy," "Gangrene," "New Formations," and "Parasites;" Professor Ruehle writes on "Pulmonary Consumption" and "Acute Miliary Tuberculosis;" and Professor Rindfleisch on "Chronic and Acute Tuberculosis."

An historical sketch shows how confused a conception of pneumonia was entertained by even the ablest physicians of antiquity, notwithstanding their admirable observations on the individual symptoms, and how rapidly correct views followed the development of the physical methods of diagnosis which the Vienna School, especially Skoda, were the first to naturalise in Germany. After

discussing many interesting points in its etiology, croupous pneumonia is anatomically defined as an acute inflammation of the alveoli and bronchioles, in which a fibrinous exudation is poured out upon the free surface of the mucous membrane, and there coagulates. In describing the three stages of the lesions found at the special seat of inflammation, Juergensen adopts substantially the words of Rokitsansky, who has elaborated in a final manner the macroscopic part of the pathological anatomy. In the *histological* examination he, in the main, follows Rindfleisch. The coagulated exudation, which is the essential feature of croupous pneumonia, is attributed to a special influence upon the epithelium of an irritation which, at the same time, excites the ordinary lesions of inflammation. It must be admitted that a peculiar change does take place in the epithelial cells during a croupous inflammation, because no one has ever yet succeeded in artificially producing a croupous pneumonia, although the genuine phenomena of ordinary inflammation may be produced in the blood-vessels of the lungs. It is customary to enumerate as *exciting causes* many things which may, it is true, excite an inflammation of the lungs, but not a croupous pneumonia. To this class belong injuries to the chest by contusions, perforating wounds, or those caused by foreign bodies which are drawn into the bronchi, and excite pulmonary lesions, but no injury of this kind can produce a true croupous pneumonia. The anatomical changes in croupous pneumonia are entirely distinct from those of every other pulmonary inflammation, and this form of phenomenon can no more be produced by the ordinary excitants of inflammation, however strong or weak their action, than can the characteristic intestinal lesions of typhoid fever.

Passing by the chapters which deal with the analysis of individual symptoms, physical examination, complications, relapses, terminations, and sequelæ, and which are replete with suggestive observations, we approach the question of treatment. Preparatory to the discussion of this subject a series of propositions are laid down, whose proof involves the consideration of all the facts bearing upon the etiology, anatomy, or pathology of the disease. *Croupous pneumonia is a constitutional disease, and is not dependent upon a local cause. The pulmonary inflammation is merely the chief symptom, and the morbid phenomena are not due to the local affection. The hypothesis of a morbid cause is indispensable. Croupous pneumonia belongs to the group of infectious diseases.* The author strongly disputes the popular idea, that it depends upon the

condition of the individual, whether, upon exposure to cold, he contracts a pneumonia or a catarrh, or that if two persons be subjected to the same exposure, one will get a pleurisy, the other a pneumonia, according to the personal *locus minoris resistentiæ*. This supposed relationship is denied, on the ground that croupous pneumonia and bronchitis exhibit an entirely different geographical distribution, the laws which govern the prevalence of bronchitis not being applicable to croupous pneumonia; that there is also a striking difference as to the seasons of the year in which these diseases prevail, there being no *temporal* coincidence, generally speaking, between pleurisy or bronchitis and pneumonia. The cases of pneumonia (croupous) in which there has been a previous exposure to cold or other influences of an injurious character are so few that it is hardly possible to regard these influences as exciting causes; and, on the other hand, only a very small proportion of the persons who have been thus exposed are subsequently attacked with pneumonia (croupous). The outbreak, or more properly the development of pneumonia, may be hastened by such exposure, but there is no other connexion. Fright may bring on labour in a pregnant woman, but it ought not to be held responsible for her pregnancy. The *anatomical* changes in croupous pneumonia are entirely distinct from those of every other pulmonary inflammation, and cannot be produced by any of the usual causes of inflammation, however strong or weak their action, whereas in pleurisy and bronchitis the exciting cause, whatever its character may be, as soon as it reaches the necessary intensity, always produces anatomical changes, which vary only in amount. During the whole course of pneumonia (croupous) there is no constant relation between the local and the febrile symptoms, nor dependence of the one upon the other. The smallest pneumonic consolidations often run their course with the severest fever, and, on the other hand, we find extensive inflammations with a very moderate fever. Small consolidations, with high fever and severe constitutional symptoms, and solid infiltrations, with a comparatively slight fever and general disturbance, are the rule, and not the exception. The resolution of the constitutional symptoms, and especially the suddenness of their disappearance, afford an additional proof, contrasting strongly with the course followed by *catarrhal* pneumonia, which is the form of inflammation of the lungs produced by the usual causes of inflammation. In *croupous* pneumonia days and weeks elapse before the *local* pulmonary symptoms disappear,

and yet during the whole time the patient feels quite well. As, then, we find in croupous pneumonia (prodromal stage) fever without local affection, and local affection without fever (regressive stage), and the local affection and the fever not usually corresponding in amount, the conclusion is justifiable that there is no causal relation between them, but merely one of coincidence. Croupous pneumonia, furthermore, is a disease which runs a typical course. No affection which arises from a local lesion presents a career so definitely limited in point of time as is the case with croupous pneumonia. It runs its course in a manner closely allied to that of the acute infectious diseases. The resemblance consists in conformity to a certain type during the number of days the morbid cause is dominant, then at a very constant date the disappearance of fever ensues, whereupon it only remains for the conservant forces—those factors which constitute what we consider as the strength of the patient's constitution—to restore things to their normal condition. The diseases which Juergensen would especially like to have classed in the same group with croupous pneumonia are acute articular rheumatism and epidemic cerebrospinal meningitis. The three diseases are undoubtedly non-contagious, either directly or indirectly, and he would refer them to the category of malarial infections. By malarial infections are understood infections received from without, and producing diseases which, like ague, cannot convey the infection any further—from the diseased to any other person.

The author is especially desirous that croupous pneumonia should occupy its proper nosological position, because the moment we are convinced that we are dealing with an acute infectious disease—a constitutional affection with local symptoms, and not a local disease with constitutional symptoms—the indications for treatment are radically changed. Realising the idea that we have to combat—not an “inflammation,” but rather a constitutional disease, and one, moreover, of comparatively short duration—we are more ready to adopt an expectant treatment, which bides its time, interferes only when necessity requires, and does not see in the mere name of the disease an indication for attack. For those who regard croupous pneumonia as an acute infectious disease, the indications for treatment are very much simplified, and the principle which underlies the management of all such diseases is applicable unconditionally. *Nature cures, and the only duty of the physician is to maintain life until this cure is effected.* It is merely

following out these principles to do almost nothing in, say 80 per cent. of the cases, but to be ready to employ the most active treatment in the other 20 per cent.; for, as the author observes, it does not follow that because a person adopts the principle not to get drunk, he ought, therefore, to join a temperance society; and it is desirable that such a fundamental distinction should be a little more respected.

In discussing the conduct of the physician at the bedside of a patient ill with croupous pneumonia, Juergensen considers that the duty is two-fold—prophylaxis against further exhaustion of the heart, and control of already existing exhaustion. He advances the proposition that the danger in croupous pneumonia threatens principally the heart of the patient. Death results from insufficiency of the heart. The reasons for this opinion are worked out in detail. The principal points in them are:—The exudation in pneumonia produces an increased resistance in the pulmonary circulation, and consequently increased effort on the part of the right ventricle. The pressure of the exudation also increases the difficulty of the left ventricle in nourishing the inflamed section through the bronchial arteries. The changes produced in and near the lung by pneumonia diminish the total amount of force to be furnished by this organ for the movement of the blood. The promotion of the circulation by the respiratory movements is further hampered by the pain of frequently co-existent pleuritis, as well as by imperfect expansion of the infiltrated lung. In pneumonia the surface over which blood and air come in contact with each other is diminished by the exudation, and this fact necessitates increased labour on the part of the forces which impel the blood and air whenever an abundant exchange of gases is required. The fever induces increased labour on the part of the heart, and at the same time inflicts a direct injury upon it. When fever is present the formation of carbonic acid is increased; to prevent its accumulation in the body the excretion must be more rapid than normal, and this result can be effected only by increasing the force supplied by the heart and respiratory muscles. The fever actually leads to a degeneration of the muscular substance of the heart (Zenker, Liebermeister). The diminution in the amount of nourishment taken, amounting in highly febrile conditions to almost complete abstinence, chiefly affects those parts whose task is the most arduous, the muscles which labour uninterruptedly, such as the heart and respiratory muscles. From all sides the threads run

together to a central point. It is the heart, and always the heart, upon which the burden is ultimately thrown in croupous pneumonia.

In considering the means by which the fever is to be combated, Juergensen discusses the question—"Is it proper to bathe a patient who is ill with pneumonia, to abstract heat directly?" and deals with the formidable *à priori* objections of the danger of collapse, and the danger of catching cold. He alludes to the case of his own daughter, then only nineteen months old, who for the third time within a brief period was attacked with a severe pneumonia. The temperature rose above 105·8° F., and returned so quickly after baths of 60·8° F., that he found himself compelled to reduce the temperature of the water to 41° and 42·8° F., and to continue them for ten minutes. The child recovered, and at no time during the employment of these extreme measures, extending over several days, was there the slightest indication of collapse. He most positively insists upon one precaution—a patient with pneumonia must never be bathed without the administration of stimulants before and afterwards, and the amount of stimulant must be increased when water of a lower temperature is used, or the duration of the bath is lengthened. This precaution obviates the danger of collapse. Under the influence of the cold bath the peripheral vessels contract, producing an increased resistance in the vessels, and consequently an increase of work for the heart, and the overloaded organ may become completely paralysed. Stimulation is also necessary after the bath is finished, because the cooling process, which does not reach its maximum until fifteen minutes or half an hour later, is very apt to produce symptoms of collapse in persons with feeble hearts.

In addition to the direct abstraction of heat, he always uses quinine. Above all other antipyretic medicines, it possesses the invaluable advantage of reducing temperature without injuring the heart, and this it accomplishes by diminishing the production of heat. Tartar emetic and its younger brother veratrine diminish the temperature only at the expense of the heart; both induce collapse. The anti-febrile action of venesection he considers to be slight and uncertain, and compares the physician who bleeds in pneumonia, on account of the fever, to the philosopher who cuts down the fruit tree in order to get the fruit. When properly used, quinine diminishes the temperature for at least twelve hours, and as long as the low temperature lasts, the heart, so to speak, takes a

rest. The greatest reduction ($2\cdot7^{\circ}$ to $5\cdot5^{\circ}$ F.) occurs from five to seven hours after the medicine is taken; he has demonstrated by thermometrical measurements, repeated every five minutes, that the line of descent and subsequent elevation is very nearly straight. Details as to the mode of administering it are given with great minuteness. The subjoined formula is the one he uses as a suitable dose in moderately severe pneumonia in an adult:—

R. Quiniae sulphatis	-	-	-	gr. xxx.
Acidi muriatici	-	-	-	q. s.
Aq. destil.	-	-	-	℥iiss.
Misce.	To be taken as one dose.			

This should be given in the evening, between six and eight o'clock. For children he uses a grain and a half for every year up to five years of age, and after that period from seven to fifteen grains, according to circumstances. These quantities may be exceeded without doing any harm. When the fever is intense he has repeatedly given as much as seventy-seven grains to a strong adult, and fifteen grains to a child under one year, always in one dose. He has but one caution to give—in those cases in which the temperature has at some time been $105\cdot8^{\circ}$ F., and has risen again rapidly after an unsatisfactory abstraction of heat, it is not necessary to give forthwith seventy-seven grains of quinine; this should be done only when the repeated use of decidedly cold baths has lowered the temperature for but a short time, and smaller doses have proved useless. In such cases he first tries the effect of a dose of forty-five or sixty grains. Again he insists it is the heart which is the guide for the physician. Whoever carefully examines the pulse walks safely; whoever fails to do it easily stumbles. As his motto in typhoid fever is *sine thermometro nulla therapia*, so in pneumonia it is *sine pulsu nulla therapia*. In his cases he has never noticed any harm done by quinine. The pulse falls at the same time with the temperature, but remains full and strong, or is improved in character if it had previously been weak. The discomfort on the part of the patient is generally not much greater from large than from small doses, and disappears rapidly. Not very infrequently vomiting occurs soon after the quinine is taken. If the medicine have been retained as long as half or three-quarters of an hour, it is scarcely necessary to repeat the dose, because the salt, when exhibited in the form suggested, is rapidly absorbed. If delay be dangerous, the dose may be repeated immediately,

because it is better to give too much than too little. But in many cases the medicine is rejected within a few minutes after it has been taken. This may often be prevented by directing the patient to bend forward as soon as he has swallowed the quinine, and to keep his mouth open, so as to allow the abundant flow of saliva, which is usually excited, to flow out. Small pieces of ice, swallowed when nausea is first felt, will often prevent the vomiting. If it occur notwithstanding, he usually gives a second dose a quarter or half hour afterwards, and perhaps even a third dose. Usually the second one is retained. If we fail, as we sometimes will, to introduce the quinine into the body by this mode, it may be administered by enema. This plan is almost always successful; absorption of it seems to take place nearly as quickly by the rectum as by the stomach. If the quinine is to be used by injection, the apothecary should be directed to add but a small amount of acid, and to use three or four times more water for the solution than he has above recommended. If much acid be used it irritates the mucous membrane of the rectum excessively, and soon induces the expulsion of the clyster. The use of a mucilaginous vehicle and a few drops of laudanum will be sufficient, with rare exceptions, to produce a sufficient tolerance on the part of the intestine. In order to get the full effect of such dose of quinine, the latter should not be given daily, but every second evening, thus allowing forty-eight hours to elapse between two doses. Pain and sleeplessness are two other points to be attended to, which are of considerable importance in regard to the prophylaxis against exhaustion of the heart. Continuous pain in every way diminishes the power of resistance to disease; moreover, the pain resulting from the inflammation of the pleura interferes with respiration. Insomnia and the frequent restlessness and delirium of intemperate cases throws upon the heart a constantly increasing amount of work. The pulse soon shows that the heart is unequal to the task. Sleep, and the cessation of muscular activity associated with it, is the only remedy. Juergensen approves of local hypodermic injections of morphia, from one-fourth to one-sixth of a grain, for pain. In no case of pneumonia should insomnia be permitted to continue. Sometimes, when the antipyretic treatment is effectual, a full dose of quinine seems to act directly as a hypnotic, and especially in the pneumonia of drunkards. Of late he has generally used the hydrate of chloral, giving, if smaller doses failed, a single dose of from seventy-seven grains to two drachms. He observes that in febrile

cases we should never forget to give, either before or after the administration of this drug, a sufficient quantity of properly diluted hydrochloric acid, in order to prevent a decomposition of the chloral hydrate upon the feebly acid or actually alkaline mucous membrane of the stomach.

In discussing the treatment of already existing exhaustion of the heart, he strongly urges the expediency of having been as early as possible on the look-out for it, since the earlier the approach of cardiac exhaustion is detected, the more easily shall we succeed in overcoming it. He thinks that it is to his constant watchfulness for the first symptoms which indicate a decline in the activity of the heart that he is, to a considerable extent, indebted for his clinical results. The results of exhaustion of the heart are manifested by the occurrence of passive congestion in the pulmonary circulation, the left ventricle becomes empty, and in cases of serious failure the blood accumulates in the veins of the general circulation, in consequence of the obstruction to the outflow from the imperfectly emptied right ventricle and the diminished *vis a tergo*. Under these circumstances œdema of the lungs may also occur, and in fatal cases this condition is probably always present. The exchange of gases is rendered difficult by the filling of the alveoli with fluid, but besides this, in consequence of the retardation of the circulation which precedes the occurrence of the œdema and is caused by the feeble action of the heart, the exchange of gases is delayed everywhere in the tissues, with retention there of all the products of oxidation. The imperfect filling of the left ventricle, moreover, produces very injurious results, in that the working muscles—the cardiac and respiratory—do not receive a sufficient supply of blood, and consequently their capacity for work is seriously threatened. The condition of the pulse, the ratio between the pulse and the respiration, and the increased cyanosis, which very soon makes its appearance, should be carefully watched. The main symptoms of strongly marked collapse, accompanied by œdema of the lungs, are so characteristic that they stamp themselves indelibly upon the memory of every one who has ever seen them. When they occur it is apparent to the dullest eye that they are the beginning of the end. A considerable amount of collapse is almost certainly fatal, unless arrested by treatment. Whatever is done must be done quickly and effectively. As there is much difference of opinion upon what the proper treatment is in these cases, and as the subject is a very

important one, he discusses it thoroughly. His verdict upon venesection is, that in twenty-four hours—often much sooner—after the perhaps very rapid subsidence of the most alarming symptoms, the condition is the same as before the venesection, and that it should not be resorted to even on a single occasion, except for the purpose of gaining time for the occurrence of the spontaneous termination of the disease. If there were no other way of accomplishing this result he would employ blood-letting in a given case to gain time, but he considers that the same object can be effected in a less dangerous way if we can succeed in stimulating the heart to increased labour until the obstacle in the pulmonary circulation is overcome. In the less serious forms of cardiac exhaustion, he finds a full dose, say four ounces, of a strong wine, such as port, Madeira, sherry, &c., to be sufficient in the majority of cases to relieve it. The size of each dose and the frequency of its administration, of course, to depend upon the individuality of the patient, especially upon his habits in regard to wine. If these milder attacks recur frequently, he prefers to use an emulsion of camphor (two scruples to six and a half ounces of water, a tablespoonful every two hours). If the symptoms continue—without, however, becoming at any time alarming—he orders every hour or half-hour a tablespoonful of strong wine and camphor emulsion alternately. Should sudden and severe collapse occur he recommends musk (from three-quarters of a grain to two grains at a dose), with one or more tablespoonfuls of champagne, to be given at intervals of from ten minutes to half an hour, until improvement occurs. He considers that musk acts rapidly, like champagne; camphor more slowly, but its effects last longer. In severe cases, with more frequent intercurrent attacks, he prefers to continue the camphor after the musk and champagne, in order to maintain the desired effect. When the patient is no longer able to swallow, and cannot retain an enema, he has of late frequently used a hypodermic injection of camphor. He uses the camphorated oil of the German Pharmacopœia (one part of camphor to nine of olive oil), and injects by means of a Pravaz's syringe as much as seems to be necessary. The effect is rapid. Abscesses do not result from the injection. Even more rapid still (he observes) in its effects than musk or champagne is *hot grog*, from one to two parts of cognac or rum, or whiskey *if nothing else is to be had*, to one part of water, or perhaps one part of strong coffee or tea. Of this he gives one or more tablespoonfuls every ten minutes. In many cases the effect

is wonderful, but it does not last long, and requires to be kept up.

For the view of pneumonia which he presents, Juergensen claims the advantage that it develops the whole theory of the danger in the disease from a single point of view. When he compares 400 cases treated according to his principles with 400 cases equally unselected, which were treated at the Polyclinic before his ideas were carried out, it appears that the mortality has been diminished just about one-half. In conclusion, he observes in the milder cases there is no positive treatment, except a simple regulation of diet, but the prudent physician will even here usually prefer active interference to passive expectation. In severe pneumonia very much may be accomplished by treatment, if it be carried out in strict accordance with the principle that in this infectious disease it is the heart whose activity must be maintained against the evils which directly threaten it. For the future one point must be regarded as settled—that all prostrating measures, and all medicines which tend to paralyse the heart, when given in doses sufficient to reduce the temperature, should be excluded from the treatment of pneumonia. So also any mode of treatment which urges the heart to excessive action is wrong, because the over-stimulation results in paralysis. That patients get well with all possible “methods” is obvious; the fact only shows that pneumonia is a typical disease, and that man is an animal very tenacious of life—nothing more and nothing less.

The article on Croupous Pneumonia has been noticed at length, because of its great practical importance. That on *Catarrhal Pneumonia* is equally valuable, and will amply repay careful study. In discussing the treatment of the suffocative stage of catarrhal pneumonia, when extensive mucous rales and increasing dyspnoea indicate the presence within the bronchi of a large amount of mucus which cannot be expelled but by emetics, Juergensen highly approves of *apomorphia*. He observes, that as *apomorphia* produces collapse only when given in large doses, it is decidedly the best agent to use in these cases. The hypodermic administration of the drug makes the physician independent of the patient, and explosive vomiting follows quite promptly. He has employed *apomorphia* very frequently, and is well satisfied with its action. But he would not recommend it as a preparation of universal applicability, because it is not always possible to obtain it pure, and it soon undergoes decomposition; these are serious

objections to its use in country practice, for impure or decomposed preparations act on the heart. He observes that the best way to keep it is in a solution of about ten grains of the hydrochlorate of apomorphia to a fluid ounce of glycerin and water. One Pravaz's syringeful should be injected.

Although parts of this volume may possess a very unequal interest to many readers, the essays on Pulmonary Consumption and Tuberculosis cannot but be regarded as exhaustive expositions of the subjects treated of, whether regarded from clinical, pathological, or histological points of view.

ARTHUR WYNNE FOOT.

The Irish Medical Directory for the Year 1876. Dublin: Offices of *The Medical Press and Circular*. London: Baillière, Tindall, and Cox. 8vo, pp. 560.

THE editor of this publication can have no reason to feel obliged to his printers, who have most unwarrantably delayed the appearance of an annual volume to the month of March. If such a course be persisted in, we cannot anticipate for "The Irish Medical Directory" as prosperous a future as we wish for it.

Of the volume itself we must speak in terms of praise; but having noticed in detail the leading features of the work in a review twelve months ago, it only remains for us to say that the present issue includes the following additions, extending over fifty extra pages:—An Abstract of Regulations affecting Union Medical Officers; the Pharmacy Act; a List of the Council and the Regulations of the Pharmaceutical Society of Ireland; the Lunatic Asylums Act of last Session; the Sale of Food and Drugs Act; Completed List of Sanitary Salaries, with other Statistics; the New Naval Medical Regulations; and Extended Statistics of Birth and Death Registration in Ireland.

PART III.

HALF-YEARLY REPORTS.

REPORT ON

MATERIA MEDICA AND THERAPEUTICS.*

By WALTER G. SMITH, M.D., Dublin; F.K.Q.C.P.I.; Assistant-Physician to the Adelaide Hospital; Examiner in Materia Medica and Botany, Pharmaceutical Society, Ireland.

ART. 6. Alcohols, properties of.

- „ 1. Arsenic.
- „ 5. Carbolic Acid Poisoning.
- „ 3. Phosphorus.
- „ 4. Salicylic Acid.
- „ 2. Warburg's Tincture.

1. *Arsenic-eaters*.—There appears to be great reluctance among many persons to believe in the accounts of the singular habit of eating arsenic, which has long been reported to be prevalent in certain parts of Europe. Yet so far back as April, 1865, Dr. MacLagan published an interesting paper in the *Edinburgh Medical Journal*, in which he indisputably proved, from personal experiments, the reality of the practice, and five years later his statements were confirmed by Dr. Vest (*Edinburgh Medical Journal*, December, 1870). At a meeting of German natural philosophers, recently held at Gratz, in Styria, Dr. Knapp introduced two arsenic-eaters, one of whom ate 0.30 gram of yellow sulphide of arsenic, and the other 0.40 gram of arsenic acid, in presence of the assembly. Some curious details were mentioned by Dr. Knapp:—

“It is difficult to give any certain particulars as to the increase in number of arsenic-eaters. I have convinced myself that there exist many of them in Upper Styria and also in Middle Styria; very many stable

* The author of this Report, desirous that no contribution to the subjects of *Materia Medica* and *Therapeutics* should remain unnoticed, will be glad to receive any publications which treat of them. If sent to the correspondents of the *Journal*, they will be forwarded.

boys, ostlers, wood-cutters, and foresters are known to me as arsenic-eaters; even the female sex is addicted to the practice. Many began already at seventeen or eighteen years of age to take arsenic, and continued it to a great age. Most arsenic-eaters keep the matter secret, so that it is impossible to give accurate statistics. They all assign as their motives for indulging in the habit that it prevents illness, furthers their wish to look rosy and healthy, that it is a remedy against difficulty of breathing, and assists the digestion of indigestible food. A poacher in Upper Styria, who made experiments in my presence of eating arsenic, told me he had acquired courage by the habit. The appearance of the arsenic-eaters in all cases known to me is healthy and robust. I think only robust persons can become accustomed to the practice. Some of them attain a great age. Thus in Zeirung I saw a charcoal-burner, upwards of seventy, still strong and hearty, who, I was told, had taken arsenic for more than forty years. I heard, too, of a chamois hunter of eighty-one, who had long been used to eat arsenic. I never observed an arsenical cachexia in those addicted to the habit. It certainly happened once that such an arsenic-eater (a leather-dresser's apprentice in Ligist, 1865), while intoxicated, took too much, thereby poisoning himself severely. According to his own account, he had taken a piece as large as a bean. He entirely recovered, however, and ate arsenic afterwards, but more carefully. As far as my observations extend, white arsenic—namely, arsenious acid— As_2O_3 (also called flowers of arsenic), and the yellow arsenic, As_2S_3 (orpiment), are taken, and that in a dry state, alone or on bread. The dose is, of course, very small at first, and is gradually increased, the largest quantity eaten in my presence by the poacher in Zeirung being 14 grs. A certain Matthew Schober, in Ligist, ate $7\frac{1}{2}$ grs. before me on the 17th April, 1865. The intervals, too, at which arsenic is taken vary—every fortnight, every week, twice or three times a week. But all doubt as to the existence of arsenic-eaters is now removed by the present experiments.”—(*Pharm. Journ.*, October 23, 1875.)*

In the *Med. Times and Gazette*, 1866, there is an abstract of an extraordinary case by Dr. La Rue, of Quebec. An Englishman, aged forty-seven, resident in Canada, of good constitution, and father of six healthy children, began to take white arsenic in 1854, as a supposed remedy for consumption. Within six or eight weeks he eat 2 ozs., and mingled it with the tobacco he smoked. He never experienced pain in the stomach or bowels, nor any constitutional disturbance. After eating the arsenic he would not drink water for some time, but took wine or beer. In Dr. La Rue's presence

* For fuller details see London Medical Record. November 15, 1875.

he eat 4 grs. of pure arsenious acid, and smoked another grain with his tobacco.

Arsenic in Chorea.—Dr. Eustace Smith states that by the use of large doses of arsenic—*i.e.*, 10 minims of liquor arsenicalis—three times a day, directly after meals, to a child five to twelve years old, cases of this disease which had resisted smaller doses of arsenic may be cured in a few days, and even severe cases seldom last longer than a fortnight or three weeks.—(*Brit. Med. Journ.*, May 1, 1875.)

Arsenic in Pemphigus.—Mr. Jonathan Hutchinson has brought forward a mass of evidence which proves conclusively the value of arsenic in this disease. He asserts his belief that arsenic is an absolute specific for that state of health on which relapsing pemphigus depends. He believes that those who hold an opposite view—notably Professor Hebra, Bazin, and Dr. Dyce Duckworth—have not had sufficient regard to the important matter of dosage, nor have they persisted sufficiently long in the treatment.—*Medical Times and Gazette*, 23rd October and 6th November, 1875.—(*Dr. Handsel Griffiths' Report* for December.)

2. *Warburg's Tincture.*—It is about a quarter of a century since this famous preparation was brought into wide repute in England (*Cf. Med. Times and Gaz.*, June 28, 1851, p. 702), its inventor claiming to have discovered it in the year 1834, while residing in Demerara. In the *Dublin Quarterly Journal*, February, 1869, an analysis was given of a pamphlet published by Dr. Warburg in support of his claims, and he then pledged himself, if he did not prove the unquestionable superiority of his febrifuge to any other known medicine, to divulge the composition of his remedy without fee or reward.

Professor Maclean, who has been made acquainted by Dr. C. Warburg with the composition and mode of preparation of his celebrated tincture, now publishes, with the sanction of the inventor, the composition of this secret remedy, and contributes his experience of its remarkable properties.—(*Med. Times and Gaz.*, November 13, 1875.) It will be seen that quinine is the most important ingredient in the formula, each ounce bottle containing $9\frac{1}{2}$ grs. of the alkaloid. To the objection that this "vaunted remedy is only quinine concealed in a farrago of inert substances for purposes of mystification," the Professor replies:—"I have treated remittent fevers of every degree of severity, contracted in the jungles of the Deccan and Mysore, at the

base of mountain ranges in India, on the Coromandel Coast, in the pestilential highlands of the Northern Division of the Madras Presidency, on the malarial rivers of China, and in men brought to Netley Hospital from the swamps of the Gold Coast; and I affirm that I have never seen quinine, when given alone, act in the manner characteristic of this tincture." The tincture is administered in the following manner:—One half-ounce (half a bottle) is given alone, without dilution, after the bowels have been evacuated by any convenient purgative, all drink being withheld. In three hours the other half of the bottle is administered in the same way. Soon afterwards, particularly in hot climates, profuse but seldom exhausting perspiration is produced.

With this there is a rapid decline of temperature, immediate abatement of frontal headache—in a word, complete deservescence—and it seldom happens that a second bottle is required; if so, the dose must be repeated as above. In very adynamic cases, if the sweating threaten to prove exhausting, nourishment in the shape of beef-tea, with the addition of Liebig's extract, and some wine or brandy of good quality, may be required

The formula is as follows:—

R. Aloes (Socotr.) libram;
 Rad. Rhei (East India);
 Sem. Angelicæ;
 Confect. Damocratis; ana uncias quatuor.
 Rad. Helenii (s. Enulæ);
 Croci Sativi;
 Sem. Fœnicul.
 Cret. Præparat.; ana uncias duas.
 Rad. Gentianæ;
 Rad. Zedoariæ;
 Pip. Cubeb.;
 Myrrh. elect.;
 Camphor;
 Bolet. Laricis; ana unciam.

The above ingredients are to be digested with 500 oz. proof spirit in a water-bath for twelve hours; then expressed, and 10 oz. of disulphate of quinine added; the mixture to be replaced into the water-bath till all quinine be dissolved. The liquor, when cool, is to be filtered, and is then fit for use.

The "Confectio Damocratis," or "Mithridatium," was officinal

in the *London Pharmacopœia* of 1746, and was a farrago containing about fifty ingredients. "Why it (Warburg's tincture) has not been more generally tried, and its merits impartially estimated, is obvious enough. In the first place, its composition was kept secret, and there is a well-founded prejudice against the whole class of nostrums. Then the author declared that he had discovered a febrifuge superior to quinine, and whilst some physicians were racking their brains to guess what drug could possess such febrifuge and sudorific powers, others were held back by the fear that there might be some powerful drug of the aconite or veratrum genus which might be dangerous in full doses. This fear was enhanced by the fact, that as the preparation was secret, so there could be no guarantee for uniformity of composition."

There are, at least, three kinds of Warburg's tincture on sale now in London, and some samples contain no quinine.

"The thing is a curious specimen of polypharmacy, whether the ingredients be merely a 'farrago devised for the purpose of mystification,' or be really the result of reflection or experiment."

The febrifuge, then, is simply quinine, and the other ingredients, so far from belonging to the swamps of the tropics, come from the dismal regions of ancient pharmacy.—(*Med. Times and Gazette*, November 20, 1875.)

3. *Phosphorus, administration of*.—Dr. Méhu, to whose researches we may be said to owe the phosphorated oil of the *British Pharmacopœia*, has, during the past ten years, devoted his attention to the different modes of administering phosphorus, and in a recent paper (*Répert. de Pharm.*, Vol. III., p. 321) he passes in review the numerous methods which have been suggested for the exhibition of this powerful drug. The problem he has striven to resolve has been the obtaining of pharmaceutical preparations having a constant richness in phosphorus, and capable of indefinite preservation.

As a fundamental rule, Dr. Méhu considers that the use of solid phosphorus ought to be proscribed from pharmacy, as being dangerous and unfitted for preservation. Non-saturated solutions, in his opinion, alone present the phosphorus in an extreme state of division, and allow of a certain and regular administration. It should always be remembered that phosphorus does not fuse below 44·2° C.—that is, at a temperature above that of the human body, and that only as much can be absorbed as is dissolved. The

experiments of Réveil and Personne have proved that large pieces of phosphorus can be swallowed with impunity by dogs.

The phosphoretted resin, containing 4 per cent. of phosphorus, proposed by Mr. Gerrard, is not only difficult, but also extremely dangerous to prepare, and the phosphorus rapidly alters and oxidises. No marked practical advantage is gained by the substitution of balsam of tolu (Abraham) for the resin, and phosphoretted wax, although more easily made into pills, passes through the digestive organs without modification or sensible loss of weight. The solution proposed by Mr. Williams—viz., 12 grs. of phosphorus in 9 fluid ounces of glycerin and 9 fluid ounces of alcohol—has the fault common to all supersaturated solutions—namely, that it cannot be kept of uniform strength, its richness in phosphorus varying with time and temperature. Moreover, when diluted, solid phosphorus is immediately precipitated. Phosphoretted spermaceti (Routh), even when containing only 1 per cent. of phosphorus, is rapidly coloured red by light, and commercial neatsfoot oil (Routh) is so variable a product that it cannot be prudently used as a solvent for phosphorus.

In the preparation of phosphorated cod-liver oil, Dr. Méhu does not recommend the direct solution of the phosphorus in the cod-liver oil by the aid of heat, but that a sufficient quantity of oil of almonds, containing 1 per cent. of phosphorus, be added to the cod-liver oil to bring it up to the richness in phosphorus required.

Phosphorated ether is open to the serious objection that by its too rapid volatilisation free solid phosphorus is deposited. Further, whilst it is difficult to obtain ether free from water and alcohol, its solvent power with respect to phosphorus will vary with the proportions of each of those bodies present. On the other hand, phosphorated ether will not mix with water; introduced into an emulsion or draught, it quickly deposits solid phosphorus, and a similar deposit of solid phosphorus is to be feared when phosphorated ether is introduced into the stomach in capsules.

With respect to the so-called solution of chlorophosphide of arsenic, obtained by allowing hydrochloric acid to react upon phosphorus and arsenic in a fine state of division, Dr. Méhu says that such a mixture is neither a solution of free phosphorus nor of chlorophosphide of arsenic, but a hydrochloric solution of variable composition containing oxygen products of arsenic and phosphorus. This preparation is, in his opinion, unworthy of any attention.

Phosphide of zinc, Dr. Méhu thinks, cannot be considered a medicament presenting free phosphorus to the system.

Dr. Méhu adheres to his recommendation of phosphorated oil, prepared with pure oil of sweet almonds, and administered in capsules, containing 1 milligram. He also gives the following formula for an emulsion:—

Phosphorated oil (1 per cent.)	.	.	0·10 gram.
Syrup of gum	.	.	30·00 „
Distilled peppermint water	.	.	30·00 „

Pour the 30 grams. of syrup of gum into a bottle of 60 grams capacity, and by slightly shaking cause it to moisten the entire interior of the bottle. Introduce the phosphorated oil (as many decigrams as the emulsion should contain milligrams of phosphorus), shake well and pour in the peppermint water. The bottle should be shaken, before administering a dose, to render the emulsion perfectly homogeneous.—(*Pharm. Journ.*, July 3, 1875.)

Red Phosphorus.—In consequence of the objections which have been held against the use of the ordinary form of phosphorus in medicine, it has often been proposed to substitute the red variety of allotropic phosphorus for the normal element, for perhaps its most striking characteristic, as compared with the latter, is its freedom from toxic power. At the instance of Mr. A. Postans, Mr. J. Ashburton Thompson undertook to investigate clinically the action of red allotropic phosphorus, and he reports the results of his inquiry in the *Pharmaceutical Journal*, July 17, 1875:—

“All experiments conducted with red phosphorus had shown it to be an inert body, until, about sixteen months ago, Dr. Bednar, of Vienna, asserted that he had produced some of the same effects with small and long-continued doses of it, as may be produced (under some circumstances) with the free element—that is to say, excitement, nervousness, and muscular tremor. In my recently published work, ‘Free Phosphorus in Medicine,’ I have noticed this report, and have compared it with the results obtained by Orfila, Reynal, Rigaut, Lassaigne, Bussy, and De Vrij. These physiologists experimented upon animals only; and they agree that in the case of rabbits, guinea-pigs, dogs, and some birds, no results were obtained with it in small doses, or in large doses, after a long or short course of treatment. These experiments may not be allowed to compare fairly with Dr. Bednar’s, which were made on man, and I have therefore been at great pains to find some other record of observations made upon the human subject. I have succeeded in finding only a single remark

made by Dr. Glover in a letter on the use of free phosphorus, which was published in *The Lancet*, to the effect that in doses of 5 grs. it gave him no result.

"The report resolves itself into six parts:—(α) Upon the material employed; (β) upon the subjects employed; (γ) upon the doses employed; (δ) upon the experiments made; (ε) upon the production of any of the effects of free phosphorus; (ζ) upon the production of any other effect.

"(α.) It became necessary to be certain first of all that the material employed was perfectly pure. Mr. Postans accordingly supplied me with a quantity of red phosphorus which had been specially prepared with the object of freeing it from every trace of normal phosphorus. It came to my hands in the shape of a fine powder, chocolate-coloured and inclining to maroon, sharply acid, but otherwise tasteless.

"(β.) The power of red phosphorus over the human body being unknown, I first of all submitted myself to its action. I next administered it to my brother, who consented to become the subject of an experiment. Mr. Postans then underwent a course of it in the manner to be stated below. Having in this way obtained some knowledge of its action upon the perfectly healthy, I saw that there was no reason to hesitate in extending its application to cases of disease. But, both because it would be unjustifiable to deprive persons affected with acute disease of approved treatment, and because the course of acute disease would interfere with the necessary observations, the inquiry was limited to persons suffering from trifling or chronic disorders. The three subjects in health above-named, forming one class then, the others constitute a second and third, one of which consists of persons suffering from general debility merely, the other of those suffering from some distinct disease. The numbers employed in each class respectively were five and four. The former were females suffering from general debility, consequent upon confinement and lactation; they offered no special symptoms of disease. Of the latter, one suffered from serious hepatic obstruction, ultimately resulting in disease of the heart; one from hysteria; one from menorrhagia, followed by pelvic cellulitis; and one from facial acne of about five weeks' standing.

"(γ.) The quantities administered reached half a drachm, taken three times daily for forty days. This amount was taken in powder, and it followed, without interval, upon a course of a scruple taken three times daily for thirty days. These are the largest doses continued for the longest time on record. Half a drachm was taken for six days in one case; for fourteen days in one case; and for forty days in one case. A scruple taken three times a day was used for four days in one case; for nine days in one case; for seventeen days in one case; and for thirty days in one case. Four grains were taken every four hours for

nine days in one case; for fourteen days in two cases. The four grain doses were given in the form of a pill; the larger doses in powder mixed with sugar, treacle, or honey, by the patient—that is to say, the quantity designated was measured accurately, and not taken, as would be the case if it were dispensed already mingled with a vehicle, by guess.

“(δ.) The experiments, as stated above, may be divided into three classes—viz., those upon three persons in health; upon five persons suffering from debility; and upon four persons suffering from disease:—

“I.—CASES OF HEALTH.

“CASE I.—M., aged twenty-nine, in good health. He took two grains three times a day for eight days; seven days' interval. Four grains three times a day for nine days; seven days' interval. Eight grains twice a day for five days; no interval. Ten grains three times a day for six days; no interval. Twenty grains three times a day for five days.

“CASE II.—M., aged twenty-three, in good health. Four grains three times a day for twelve days.

“CASE III.—M., aged thirty-two, in good health. One grain three times a day for four days; two days' interval. Two grains three times a day for four days. Three grains three times a day for four days. Four grains three times a day for four days; six days' interval. Five grains three times a day; six days' interval. Ten grains three times a day for two days.

“II.—CASES OF GENERAL DEBILITY.

“CASE IV.—F., aged forty-three, confined one month. Nursing. Complaints of headache and slight neuralgia; want of appetite and strength; slight but continuous uterine hæmorrhage; constipation. The secretion of milk abundant, and the child thriving. She took four grains every four hours for nine days.

“CASE V.—F., aged twenty-eight, confined six weeks. Had recovered from mammary abscess about a fortnight. Secretion of milk small, and the child hand-fed in addition. Otherwise, as in previous cases. She took four grains every four hours for fourteen days.

“CASE VI.—F., aged thirty, in her third pregnancy. Anæmic; loss of appetite; muscular pains; constipation. She took twenty grains three times a day for nine days.

“CASE VII.—F., aged twenty-four, confined two months, and recovered from puerperal fever (slight) one month. Was still suffering from debility when she grazed the skin of one leg. In a fortnight the wound had ulcerated, and was about the size of a shilling; at the end of another

month she came under treatment, and took twenty grains three times a day for seventeen days.

"CASE VIII.—F., aged thirty, general debility after confinement with continued uterine hæmorrhage. She took thirty grains three times a day for six days.

"III.—CASES OF DISEASE.

"CASE IX.—M., aged thirty-seven. Engaged in heavy work. He was suffering from hepatic obstruction, which had so far interfered with the general circulation at that time as to dilate the cutaneous capillaries of the abdomen and thighs. After about two months the heart itself began to suffer. In the meantime, he took four grains every four hours for fourteen days.

"CASE X.—F., aged forty. Hysteria; an old patient, under treatment the greater part of each year. On this occasion her usual symptoms were complicated by pain and swelling of the larger joints. I was not able to identify the affection with rheumatism, but concluded that it was the result of a special development of the nerve state which is called hysteria. She took twenty grains three times a day for thirty days; and then, without interval, half a drachm three times a day for forty days. She is much pleased with a form of medicine which she has not hitherto taken, and she continues to demand 'her powders.'

"CASE XI.—F., aged twenty-six. Menorrhagia and general debility, three weeks. She took twenty grains three times a day for four days; on the fifth day she had a rigor—the beginning of an attack of pelvic cellulitis.

"CASE XII.—F., aged twenty-six. Facial acne, severe, of five weeks' standing. Otherwise pretty well; but there was constipation. She took thirty grains three times a day for fourteen days.

"(e) and (ζ.) These two heads are placed together in reviewing the results obtained of this inquiry; for no effect, either analogous to that of normal phosphorus, or of any other kind, could be detected. In case No. 1 the temperature taken in bed every morning before rising remained at the standard, within half a degree—sometimes one way, sometimes the other, during the whole course and intervals. That person, and the subjects Nos. 2 and 3, felt no difference whatever in their condition or feelings during the treatment. I did not consider, however, that a series of such experiments upon healthy persons would be conclusive, in consideration of the fact that a healthy person might take small quantities of drugs of known active powers without apparent result. The carbonate of iron, antimonial wine, and nitrate of bismuth are respectively useful in cases of anæmia, of pulmonary disease, and of dyspepsia; but I apprehend that doses of any of these drugs might be

taken for considerable periods in such quantities as are known to be useful in disease, without producing any obvious effect upon persons in health. It was therefore necessary to submit some cases of disease, or at least disorder of the system, to the influence of the drug under investigation; and in the first place subjects suffering practically from general debility alone were selected for the purpose. From these experiments it was made plain first of all that red phosphorus certainly possesses no power in the remotest degree analogous to that of normal phosphorus, for these were the very cases in which the latter form would have been (and subsequently was) found to be especially beneficial, and it was for that reason that this kind of cases was selected. After pursuing this treatment with red phosphorus for a sufficiently long period and with sufficiently large doses, no improvement was observed in any one of those patients. But, more than that, no effect of any kind appeared to have been produced upon them, and in each instance it was necessary to have recourse to simple treatment of the ordinary kind, under which they all recovered in the usual manner. Under these circumstances it became at once a matter of very grave doubt whether this form of phosphorus was not, as has always been supposed, an inert body; but it still remained to inquire whether by chance it might not possess some specific action which might only be evinced in the case of one particular disease. I therefore pursued the inquiry with the assistance of the four latter subjects, who were suffering as I have above described. Here, again, the result obtained was simply negative; and although the number of observations under this head is small, I considered it useless to pursue the investigation further. It is quite true that the possibility I have hinted at—that red phosphorus might be found, after all, to possess a specific power as against one disease or condition of body—is not excluded by them. But considering that it is an insoluble body in the first place, and in the second that not one of the above observations had yielded any appreciable result of one kind or another, the probability became very strong that its inertia depended upon its indigestibility. When in connexion with these the observations made by some of the physiologists already named upon inferior animals are taken into consideration, that probability is strengthened."

4. *Salicylic Acid*.—The discovery of this body by Piria dates as far back as 1838, a few years later than that of chloral, and, like the latter substance, its history is an illustration of the sudden rise into general notoriety of a compound which for years had been known in chemical circles only. A good digest of the literature of this new disinfectant and antiseptic since its introduction into practice by Professor Kolbe in 1874, was given by Dr.

Duffey in his "Report in Therapeutics" (*Irish Hosp. Gaz.*, May 1, 1875), and in the present article some of the recent papers which have appeared on this subject will be shortly noticed.

(a.) *Source and preparation.*—On this point it is sufficient to say that, although the close relation which salicylic acid bears to carbolic acid on the one hand, and indigo on the other, have made its study an interesting one for many chemists, and various methods of obtaining it are known, the entire commercial supply is now procured by a method indicated by Kolbe in 1874. His process, which is modified and simplified from that originally proposed by him in conjunction with Lautemann in 1860, consists essentially in two steps—1st. Preparation of dry sodic carbolate with the aid of phenol (carbolic acid) and caustic soda; and 2nd. Treating the sodic carbolate at a high temperature, 170° C. and upwards, with dry CO_2 . By this means basic salicylate of sodium is obtained, from which, on dissolving and acidifying with HCl , a brownish crystalline precipitate of salicylic acid is deposited. By recent improvements in details the acid can be obtained quite colourless, or nearly so. An exceedingly interesting reaction takes place if potash be substituted for soda in the above process. The resulting acid is, under these circumstances, not salicylic but para-oxybenzoic acid, which is isomeric with salicylic acid, but is devoid of any disinfecting properties (Kolbe). If in Kolbe's process cresol (cresylic acid) be substituted for phenol, cresotic acid is formed, which shares with salicylic acid its disinfecting qualities. For the manufacture of salicylic acid, therefore, a non-crystalline carbolic acid containing cresol may be used, as the disinfecting properties of the product are not diminished by its containing some cresotic acid.—(Dr. H. Endemann, *Pharm Journ.*, Oct. 23, 1875.)

(b.) *Properties.*—The acid occurs in the form of a yellowish crystalline powder or in fine acicular crystals, very sparingly soluble in cold water (1 in 300), much more soluble in boiling water, in alcohol, and ether. It gives a beautiful violet purple colour with ferric salts (distinction from its isomers, oxybenzoic, and para-oxybenzoic acids), and by this test it can be detected in the urine after ingestion. It is odourless, and possesses no acidity, but leaves a sweetish astringent after-taste.

(c.) *Uses—In Medicine.*—Soon after its introduction salicylic acid was administered internally in various affections—*e.g.*, fermentative diseases of the stomach or intestines (Wagner), diphtheria (Wagner, Letzeritz), diabetes (Ebstein, Muller), but the number of

cases was too small to allow of any satisfactory conclusions being drawn.

Kolbe's experiments on the antiseptic influence of salicylic acid over ferments, organised and unorganised, were very conclusive, and have been confirmed by Neubauer, who also points out that the acid may become of invaluable importance to manufacturers of wine, because it is tasteless and powerfully antiseptic, even if applied in very small quantities.

According to Kolbe, the salts of salicylic acid have no disinfecting properties; the acid must be free. Salicylic soap, therefore, is mere waste of material, since the alkaline reaction of the soap insures the inactivity of the acid (Endemann, *loc. cit.*). Benzoic acid is, in Rother's opinion (*Chem. and Druggist*, Oct 15, 1875), a much superior antiseptic to salicylic acid, although a contrary statement is attributed to Kolbe, and there appears to be no difference between the effectiveness of natural and artificial benzoic acid.

In opposition to the above opinion of Kolbe in reference to the inefficacy of the compounds of salicylic acid, Dr. Riess, of Berlin, has used salicylate of sodium with more than 400 patients, and speaks very highly of it as reducing abnormal temperatures with great certainty in doses of five grams of the acid for adults, two and a half grams for children from six to twelve years of age. Sometimes slight disturbance of the head, tinnitus aurium, and dimness of sight occur after a full dose; vomiting is very exceptional.—(*Lancet*, Jan 8, 1876.)

In Surgery.—Notwithstanding the high testimony of Professors Kolbe and Thiersch (*London Med. Rec.*, May 26, June 2) as to the surgical importance of salicylic acid as an odourless and less irritating substitute for carbolic acid, it has not come into general use in Great Britain or Ireland, and, as Dr. Ogilvie Will remarks, the recent discussion at the Clinical Society will probably not do much to advance its cause. A pretty extended trial has, however, convinced Dr. Will that in salicylic acid we possess an agent of extreme value in a large class of cases, and, in proof of its powers as a corrector of putrefaction, he cites two cases—one of amputation of the thigh, the other mammary cancer. In the treatment of scalds, and especially in eczematous affections, he urges its use, and states that in that form of eczema which commonly affects children about the head and face, it is far superior to any remedy he has yet employed. An ointment containing 3i of salicylic acid to 3i of lard may be used.—(*Lancet*, Dec. 18, 1875).

In Pharmacy.—Mr. Baden Benger has experimented with infusions and other pharmaceutical preparations liable to rapid decomposition, and finds that the addition of a half grain of salicylic acid to ʒi fluid of the infusion will preserve it sweet for from two to four months (*Chem. and Druggist*, Sept. 15, 1875). Mr. Thresh also reports that the addition of a minute quantity of the acid delays or prevents decomposition in vegetable infusions and mucilages, and will keep the water sweet in which leeches are preserved.—(*Pharm. Jour.*, Aug. 21, 1875.)

Dose and Mode of Administration.—A serious bar to the extended use of salicylic acid, internally or externally, is its sparing solubility. By the addition of borax to the water its solvent action is so much increased that 10 parts of the acid can be dissolved in 100 parts of water if 8 parts of borax be present (Bose). First dissolve the borax with the aid of heat, and then gradually add the salicylic acid to the boiling fluids. The most suitable strength for direct application to wounds is a solution containing from $2\frac{1}{2}$ to 5 per cent. of salicylic acid, and 2 to 4 per cent. of borax. Solutions containing more than 5 per cent. of acid are too irritating.—(*Med. Times and Gaz.*, July 24, 1875, from *Berl. Klin. Woch.*)

According to Senator, who has given the acid, in intermittent fever, in doses of 15 to 30 grains shortly before the paroxysm, the best vehicle appears to be 1 part of acid in a mixture of 50 parts water and 50 parts glycerin.—(*Med. Times and Gaz.*, September 18, 1875.)

Dr. C. R. C. Tichborne also suggests a glycerin solution, 3 grs. to ʒi . In a paper on the pharmacy of salicylic acid (*Rép. de Pharm.*, Oct. 25), he has collected a number of different formulæ, and proposes some of his own. Wunderlich's mixture is as follows:—

Salicylic acid,	-	-	-	1 gram
Oil of sweet almonds,	-	-	-	20 „
Gum arabic, -	-	-	-	10 „
Syrup of almonds, -	-	-	-	25 „
Orange-flower water,	-	-	-	45 „

5. *Carbolic Acid Poisoning.*—The following case is a remarkable instance of recovery after a very large dose of carbolic acid:—

Ann N., aged forty, voluntarily swallowed nearly a teacupful of crude carbolic acid—i.e., about four ounces. She was seen by Mr. E.

Wood in twenty minutes, who washed out the stomach with tepid water five times, and then injected a pint of olive oil into it. Two hours afterwards she was somewhat better, although still unconscious. Within five hours, under suitable treatment, consciousness returned; she remained very ill for three days, then slowly improved, and left hospital in a month.—(*Med. Times and Gaz.*, Nov. 27, 1875.)

In another case of poisoning by 50 grs. of carbolic acid, the patient recovered under stimulation by injection of ammonia into the veins.—(*Lancet*, Sept. 25, 1875.)

6. *On the Toxic Properties of the Alcohols from Fermentation*.—MM. Dujardin-Beaumetz and Audigé have published their first contribution to the study of the physiological and therapeutical action of the following alcohols:—Ethylic, C_2H_5O ; propylic, C_3H_7O ; butylic, C_4H_9O ; and amylic, $C_5H_{11}O$.

1. (a.) Absolute *ethylic* alcohol, injected in the pure state under the skin, determines death, in dogs, within the space of 36 to 48 hours, when the dose reaches from 6 to 8 grams per kilogram of the body-weight.

(b.) When this alcohol is diluted with neutral glycerin, the toxic action is more rapid; death then supervenes in from 24 to 36 hours, the dose varying from 6 grams to 7.20 grams per kilogram of body-weight.

(c.) Lastly, this toxic action reaches its maximum of intensity, for this alcohol, when it is administered by the stomach. Death then happens at the end of 12 or 15 hours, after the ingestion of $5\frac{1}{2}$ to $6\frac{1}{2}$ grams per kilogram of body-weight.

2. (a.) *Propylic* alcohol, injected pure beneath the skin, produces death in a few hours, in the proportion of 4 to $4\frac{1}{2}$ grams per kilogram of body-weight.

(b.) When diluted with neutral glycerin, and injected hypodermically, the toxic action, as in the preceding case, is increased. From 3 to 3.65 grams per kilogram of body-weight suffices to kill within 24 to 36 hours.

(c.) When introduced into the stomach, its toxic action is still slightly increased. From 3 to 3.30 grams per kilogram of body-weight determine death within about 12 hours.

3. *Butylic* alcohol is still more poisonous than either of the two preceding.

(a.) Injected in the pure state under the skin it induces death in

6 or 7 hours, in the dose of 2 to 2·30 grams per kilogram of body-weight.

(b.) When diluted with glycerin, death occurs at the end of 24 hours, in the dose of 1·92 grams per kilogram of body-weight.

(c.) When introduced by the stomach, a dose of 1·76 grams per kilogram of body-weight suffices to kill.

4. (a.) *Amylic* alcohol, injected pure beneath the skin, in the dose of 1·80 grams to 2·29 grams per kilogram of body-weight, determines death within from 2 to 7 hours.

(b.) When injected in the diluted state, the toxic dose is lowered from 1·30 to 1·63 grams per kilogram of body-weight.

(c.) When introduced by the stomach, the toxic dose is from 1·40 to 1·55 grams per kilogram of body-weight, and death follows in from 3 to 10 hours.

From these experiments the following conclusions are drawn:—

1. The toxic properties of the series of fermentation alcohols bear a mathematical relation, so to speak, towards their atomic composition. The higher this is, the more decided is the poisonous action, whether by the skin or mouth.

2. For the same alcohol the toxic action is more considerable when it is introduced by the stomach than by the skin. In the latter case, dilution of the alcohol in a foreign vehicle augments its poisonous properties.

3. Except in degree of intensity, the toxic phenomena appear to be in general the same whatever be the alcohol employed.—(*Journ. de Pharm. et de Chimie*, Oct., 1875.)

CHANGES IN THE BLOOD IN GLANDERS.

M. COLIN, Professor of Physiology at Alfort, has occasioned an interesting discussion at the Academy of Medicine. He has shown that before the objective symptoms of glanders manifest themselves, the number of white corpuscles in the blood are vastly increased, and that they are morphologically different from the normal white corpuscles. Even in the lymph itself a change may be detected in the leucocytes. He believes that the lymphatic vessels and ganglions alone are concerned in the formation of leucocytes.—*Le Progrès Médical*.

S. W.

REPORT ON OPHTHALMIC SURGERY.*

By HENRY WILSON, Fellow and Professor, R.C.S.I.; Junior Surgeon to St. Mark's Ophthalmic Hospital, &c.

CONGENITAL FISTULA LACHRYMALIS.

Dr. Steinheim reports a case of the above in a girl aged fourteen, who presented, four or five lines from the ciliary margin of the upper lid, at its outer third, a funnel-shaped depression, covered with hairs, from which there was a constant flow of tears.—(*Zehenders Klinische Monatsblätter für Augenheilkunde*, 1875.)

TWO LACHRYMAL PUNCTA.

F. Raab, of Heidelberg, records an instance of the above in a girl twenty-five years old. The two distinct puncta were in the lower lid and led into two ducts, which terminated in the lachrymal sac.

DAILY-RECURRENT TOTAL AMAUROSIS OF ONE EYE.

Dr. Königstein^b relates a most interesting and inexplicable case, in which a woman, aged thirty-one, became totally blind on the right side in the evening from six to twelve, and experienced considerable pain in the supra-orbital region; the blindness ceased about half-past one o'clock the following morning. This state of daily-recurrent amaurosis continued for one month, and the patient is said to be now well. Notwithstanding the most careful watching and examination, no cause can be assigned.

CONGENITAL STAPHYLOMA CORNEÆ.

Dr. Krüchow^c relates two most interesting cases of disease occurring in the eye during intra-uterine existence, and gives the particulars of microscopic examination of the enucleated globes.

1. Congenital staphyloma, with iris cyst, removed from a girl aged eighteen months. The bulk of the staphyloma was formed by a cyst, the walls of which were, though not very firmly, united

* The International Congress of Ophthalmology is to be opened on the 12th September next, at New York, and invitations to accept their hospitality have been issued by the American ophthalmologists.

^b Von Graefe's Archiv. für Ophthalmologie. XXI, 1.

^c Loc. cit.

with the staphyloma, and the interior of which presented a smooth surface, lined throughout with ciliated epithelium. In this, as also in the subsequent case, there could be no doubt but that the child was born with the diseased process completed. The author supposes the cornea to have become diseased and to have burst (as is seen in extra-uterine life); but whether owing to too early opening of the eyelids in utero, and consequent irritation of the cornea by the liquor amnii, or to some other and unknown cause, are matters of speculation; in like manner, it is a puzzle to account for the ciliated epithelium on the inside of the cyst, as there is no such epithelium natural to the eye; the author argues that some particles of the epithelium from the mucous membrane lining the respiratory organs may have become detached, and, floating in the liquor amnii, have found its way through the perforated cornea into the anterior chamber, or on to the iris. As the eyelids are formed and cover the eyeball about the beginning of the fourth month of pregnancy, the diseased process must have occurred before the eyelids covered the eyeball, or if, after the fourth month, then the eyelids must have been opened, and this may have occurred in consequence of primary corneal disease inducing irritation of lachrymal gland, and accumulation of tears distending and opening the eyelids.

2. The second case was one of general pyriform enlargement of the right eyeball, the base protruding and preventing closure of eyelids, the left eye presenting microphthalmos, with partial opacity of the cornea, but retaining useful vision. On removal the lens was found to be absent, the iris, cornea, and ciliary processes, together with pigment, all joining with neoplastic tissue to form the front of the eyeball; evidences of perforation of the cornea still exist. From the fact of the front of the eyeball and the zonula of Zinn having existed, it is inferred that the lens also existed at one time, but it is supposed that it and its capsule escaped through the ulcerated and perforated cornea. The elder brother of this boy has microphthalmos, and on one side opacity of the cornea, with adhesion of the iris from birth.

ANOPHTHALMUS.

I have recorded* a case of congenital absence of both eyeballs in a girl in which sunlight could be discerned by its heat; other deformities existed also in this girl.

* Royal London Ophthalmic Hospital Reports. 1875.

TUBERCULOUS ULCERATION OF CONJUNCTIVA.

Dr. Hock,* of Vienna, relates two cases of what he regards as tubercle in the conjunctiva in phthisical patients.

TRANSPLANTATION IN SYMBLEPHARON.

H. Schmidt Rimpler^b gives the details of a successful case of transplantation in a boy, aged fifteen, in whom, in consequence of a burn with molten iron, the lower eyelid had become adherent to the eyeball below the inferior margin of the cornea, and the inferior third of the cornea had become opaque. In this case a portion of rabbit's conjunctiva was, after division of the adhesion and cessation of all hæmorrhage, transplanted to the globe and kept *in situ* by five stitches to the sclerotic conjunctiva, and one to the skin at the retro-tarsal fold. The transplanted portion became red and injected, and in about three weeks commenced to pale, and in five weeks its margins were no longer recognisable.

PRIMARY INDEPENDENT LUPUS OF CONJUNCTIVA.

Dr. Alexander,* of Aix-la-Chapelle, relates a case of this previously unrecorded malady, and states his diagnosis was confirmed by Arlt. The patient was a man aged twenty-seven, who presented this rare form of disease on the inside of the lower eyelid.

DISEASE IN THE ORBIT.

Dr. Noyes^d gives the notes of three cases of orbital cellulitis causing exophthalmos, in two of which recovery took place without any surgical interference, one of them having simulated orbital tumour. The author remarks that where there is a doubt whether we have to deal with a tumour or an inflammation of the orbital tissues, the balance of probabilities would be in favour of inflammation if the patient be young. In his remarks upon a case of syphilitic orbital periostitis, Dr. Noyes suggests the propriety of making an incision into the periosteum at an early stage of the attack, by penetrating the upper eyelid above the levator muscle with a sharp-pointed bistoury, and pushing its point back along the roof of the orbit in the middle line and dividing the periosteum against the bone.

* Von Graefe's Archiv. für Ophthalmologie. XXI, 1.

^b *Loc. cit.*

^c *Loc. cit.*

^d Cases of Disease in the Orbit. By Henry Noyes, M.D. New York: G. P. Putnam's Sons.

One of the most interesting cases related by Dr. Noyes is that of "Thrombosis of Sinuses at Base of Skull simulating Aneurism," which occurred in a woman aged thirty-five, who sustained an injury to the left side of head and face by a fall downstairs, which rendered her unconscious. When she regained her senses the left side of face was bruised and swollen, the eyeball prominent, and the mouth drawn to right side; no vomiting; the nose had bled freely and repeatedly; memory impaired; a beating sound experienced. On inspection the author found partial paralysis of left facial; the inner angular vein, the veins of upper lid, and the temporal, varicose and full; a thrill is felt by the hand over the eyeball, which latter projects about half an inch; a bruit is heard over left globe with great distinctness, but not over right, but can be heard in right and left temple and over both nostrils. She will not bear pressure enough on carotids to stop the pulse and bruit. The diagnosis was mainly founded upon the want of increase of the symptoms and upon the case reported by Mr. Bowman in the "Ophthalmic Hospital Reports," in which the left common carotid artery had been tied by that distinguished surgeon for a supposed orbital aneurism, but in which, after death, thrombosis of cavernous, transverse, circular, and petrosal sinuses of left side of cranium was found.

SUBCUTANEOUS INJECTIONS OF CARBOLIC ACID IN ARTICULAR RHEUMATISM.

THIS method of treating acute articular rheumatism, which was previously suggested by Kunze, has been employed by Senator with marked success. He injects subcutaneously by means of a Pravaz's syringe, an aqueous solution of carbolic acid of 1 or 2 per cent. He has never had the smallest accident with it; on the contrary, the pain disappears in a short time, sometimes even in the course of an hour, and does not recur until the action of the drug is exhausted. Senator thinks that the drug acts by developing a local anæsthesia of the region submitted to its influence (*Berl. Klin. Wochensh.*, 1875, No. 33). This well-known local anæsthetic influence of carbolic acid has been utilised in another way by Dr. Bergonzini (*Riv. Clin. de Bologna*, August, 1875), who says that he has succeeded in opening abscesses without pain by means of a solution of two parts of carbolic acid, and one part of glycerin, left in contact with the skin for three or five minutes. A little redness and tumefaction occurred only in those cases where the skin had been previously a little inflamed, or had been left too long in contact with the liquid. He proposes to try its efficacy in superficial neuralgias.

K. M. F.

PART IV.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE COLLEGE OF PHYSICIANS.

SAMUEL GORDON, M.B., President.

GEORGE F. DUFFEY, M.D., Honorary Secretary.

Wednesday, March 8, 1876.

DR. GORDON, President, in the Chair.

On a Case of Abdominal Aneurism, treated by Aconite and Rest, which terminated in Recovery. By THOMAS WRIGLEY GRIMSHAW, A.M., M.D.

FOR the following record I am indebted to Mr. O'Grady, Clinical Registrar to Steevens' Hospital:—

Robert G., aged thirty-four, an engine-fitter, employed at the Great Southern and Western Railway works at Inchicore, was admitted into Steevens' Hospital on April 7th, 1875. His history was as follows:—He had always been healthy, with the exception of an attack of syphilis eleven years ago; is married, and has a healthy family. In December, 1873, when residing at Nenagh, his health first began to fail. On Christmas Eve he was unable to walk, owing to weakness in his back. Next morning there was pain in the lower portion of the dorsal region of the spine, shooting from thence into his legs. In consequence of the severity of these symptoms he was confined to bed for three weeks under medical treatment. He seemed so ill at this time that his friends despaired of his recovery. Until June, 1874, the pain was chiefly referred to the back and abdomen. He continued very unwell, and could only occasionally attend to his work. In June he gave up all work, in consequence of the intensity of the pain and weakness of his legs. He says his legs "were weak, but not paralysed."

He came to Dublin on June 26th, and was admitted to the Mater Misericordiæ Hospital, under the care of Dr. Nixon, who informs me that at this time there was no sign of aneurism. He remained in hospital for three weeks, at the end of which time he seemed quite well, and was able to walk from the hospital to Inchicore.

A short time after his return home from the Mater Misericordiæ Hospital, he noticed pulsation in the abdomen. In August he returned to his employment, and continued to work until November 27th, 1874, when he had to give up on account of the pain and weakness in his back and legs.

His abdomen now became distended, and on November the 28th he was again admitted to the Mater Misericordiæ Hospital, but left of his own accord at the end of twelve days. He states he was scarcely able to leave hospital, but, wishing to get home, he drove to Inchicore in a cab. He remained at home until April 7th, when he was admitted to Steevens' Hospital.

On admission a large tumour was found to occupy the upper part of the abdomen, filling the epigastric region. This tumour seemed to occupy the whole of the central portion of the abdomen, nearly as far down as the umbilicus; it was globular in form, tolerably firm, and pulsating violently, the impulse having the well-known expansile character of an aneurismal sac. There was a loud bellows murmur audible over the tumour, and along both sides of the spine behind; the tumour was quite immovable, either vertically or from side to side. The feel and appearance of the tumour were truly alarming, not only to the patient himself, but also to those of his attendants who were acquainted with its nature. The patient complained much of pain in the tumour itself, of oppression in the abdomen, and intense pain in the back, especially to the right side of the spine in the lower dorsal region, with pain and numbness of the legs, and occasionally swelling of the feet. At night he got frequent and severe attacks of pain and pulsation in the tumour, waking him suddenly with a belief that he was going to die; his sleep was generally interrupted by these attacks, varying in severity from time to time. The attacks of pain and pulsation, he said, were aggravated when his bowels were less free than usual. The bowels were tolerably regular, but the intervals between motions rather longer than normal. On one or two occasions there was a slight tendency to diarrhoea, but on no occasion was it found necessary to treat him for any bowel derangement. In all other respects, except those mentioned, the patient was perfectly healthy. The pulse presented nothing remarkable, and, except during the paroxysms of pain above mentioned, did not depart from the normal frequency and force.

The disease was diagnosed, with little difficulty, to be abdominal aneurism, either of the aorta itself or of one of its larger branches.

The opinion was that it was aortic. It was also evident that the aneurism was one of great size, and that the patient's life was in imminent danger.

It was suggested that Mr. Tufnell's plan of treatment should be carried out in this case, but it was evident that the patient would not submit to such rigid routine, and it was decided to adopt a somewhat modified plan. Rest in the recumbent position was enjoined, the patient being allowed to turn on his side, and move about to a considerable extent in the recumbent position. He was kept on low diet, consisting of bread and tea, beef-tea, and soup; no stimulants whatever were allowed. This plan was adopted as being likely to facilitate digestion, prevent local irritation, and therefore obviate the necessity for either astringent or purgative drugs. From the beneficial, though not successful, results which I had found to attend upon the use of aconite in the treatment of two cases of thoracic aneurism, I determined to employ the drug in this case, believing that by its use, accompanied by complete rest, the patient's life might be prolonged for some time, and possibly, though improbably, a cure be effected. Accordingly, the patient having been placed on the diet above indicated, five minims of the tincture of aconite were ordered every three hours. On the day after this treatment was first commenced, the pulse had diminished to about 50 per minute, and became considerably weaker than it was previous to the administration of aconite, but the patient did not admit to any diminution of the local symptoms. On the following day the patient announced that he had not had so good a night for months; he only felt the beating once, but complained of burning in his mouth and tingling in his limbs, showing that the drug was developing its specific effects. The pulse was now very slow and weak, and the limbs had a tendency to become cold. The pulsation in the tumour was manifestly less than on admission. I warned the patient that a great deal of his chance of recovery depended upon his own patience and quietness. The drug was continued in the same doses for a week, when the symptoms of poisoning were so unpleasantly marked that the dose was reduced to one-half, and for three months the treatment was continued, the plan pursued being to interrupt the drug whenever tingling sensations made their appearance in the extremities. The improvement in the condition of the tumour was steady, but scarcely noticeable, from day to day. First the paroxysms of pain vanished, then the constant pain subsided, the pulsations diminished by degrees, and the tumour became firmer, and slightly decreased in size. In the month of July a considerable improvement had taken place in the tumour, but the patient's general strength was failing; his diet, therefore, was increased by the addition of meat and stirabout. The aconite was diminished, and finally abandoned on the 24th of August, and Parrish's syrup given instead. The symptoms steadily diminished,

and the tumour decreased in size; the murmur also became almost inaudible. On Nov. 7th the tumour was examined, and no murmur was heard; its bulk was probably not one-third what it had been when the patient was admitted. There was still some pulsation. No further examination was made until Nov. 14th, when it was found that pulsation had ceased, the tumour felt solid, and there was no complaint of pain. The patient left hospital on Dec. 8th, in good general health, but still complaining of slight pain in his back, and some weakness of his limbs. He was in hospital altogether 244 days. I advised the patient to give up his occupation as an engine-fitter, and to obtain some employment which would not necessitate his lifting heavy weights, or expose him to the same strains to which he had been liable. This advice he has been able to follow, and he is now in the enjoyment of good health, and is able to walk about, though he is not so strong on his legs as he was before his illness. I last saw him in February, 1876, when the tumour was solid without pulsation or murmur. Pulsation could not be detected in any of the superficial arteries at the ankle; the pulsation in the popliteal and femoral arteries was feeble, and the patient complained of constant coldness of the feet.

In laying the foregoing case before the Society, I fully appreciate the feebleness of conclusions drawn from single cases, but I nevertheless believe that the result of this is suggestive of a treatment of internal aneurism which may probably prove successful in other cases.

The well-known properties of aconite as a depressor of the circulation, and its decided effect in reducing the impulse of the aneurismal sac in this and two other cases in which I employed it, certainly point to the conclusion that this drug may—either used alone or as an auxiliary to other methods of treatment—be of service in the treatment of aneurism.

The success which has attended Mr. Tufnell's mode of treatment has been such as to place it in the first rank as a method of cure for internal aneurism. It is, however, notorious that many patients will not submit to Mr. Tufnell's rigid routine, and in such cases I would suggest aconite as an alternative. From what I have seen of the action of aconite on aneurism, and from what I have both seen and read of the result of Mr. Tufnell's treatment, I am strongly of opinion that the combination of the two methods will give the best chance of a favourable result.

I do not propose the use of aconite in the treatment of aneurism as an original suggestion. I am aware the proposal has been made before, and, I think, by several writers, but I am not aware of any published case where the symptoms appeared substantially to diminish as a result of the use of aconite, nor do I know of a case where cure has followed the employment of this drug.

The **PRESIDENT** said that abdominal aneurism was one of the hardest diseases to diagnose, although the diagnosis of it might seem so simple. He had no doubt that this case of Dr. Grimshaw's was one of true abdominal aneurism.

DR. HENRY KENNEDY said the case was an important one, as bearing in a particular way on the treatment of the disease. It should not be forgotten that the spontaneous cure of aneurisms, in no matter what region of the body they occurred, even when affecting vessels of the brain, had been frequently noticed; and death from an aneurism in the brain happened generally, not from the bursting of the sac, but from its existence causing disease of the surrounding cerebral structure. It was the same in aneurisms in the chest; and a number of cases were on record in which aneurisms had been found after death, the existence of which was never suspected during life. So it might be also in the abdomen. Dr. Kennedy referred to the treatment of abdominal aneurism by compression above the sac, and to Mr. Tufnell's treatment of aneurism by position and restricted diet, although he did not think it necessary to carry the starving plan quite so far as Mr. Tufnell did. Dr. Grimshaw's case appeared to have involved the spine, for the symptoms of weakness of the limbs pointed to the engagement of the vertebræ. Mr. Tufnell spoke of a case in which the aneurism took an anterior direction. The disease was often most difficult to diagnose. The non-mobility of an aneurismal tumour in different positions of the body was an important point in the diagnosis of abdominal tumours.

DR. GRIMSHAW, in reply, said that in his case the patient felt a tingling in the arms as well as in the legs, but the latter might have resulted from the backward pressure of the tumour. He believed that the man's spine was seriously damaged, and that he was suffering from it still, and he doubted that he would ever perfectly recover of that affection. The murmur, however, had quite subsided. The man was in hospital for very nearly a month after both pulsation and murmur had ceased, and he watched him very closely.

MR. E. LAPPER, F.C.S.—by permission of the Council—read a paper "On the Antiseptic Power of Salicylic Acid, and certain of its Compounds compared with other Antiseptics, therapeutically Considered." [It will be found at p. 321.]

DR. FOOT observed that the result of Mr. Lapper's comparison of the antiseptic power of salicylic acid with analogous agents was to assign it a lower place in the rank of antiseptics than it had been supposed to be entitled to. He (Dr. Foot) was not surprised to find sulphate of quinine

occupying the prominent position it did, for his observation had led him to regard it as antiseptic in the highest degree. Looking at the subject of antiseptics from a medical point of view, he thought that although salicylic acid, when rigidly tested in the way Mr. Lapper had done, might prove inferior to some of the other agents in the list, yet it might be practically more useful from the readiness with which it could be procured and the facility with which it could be administered. On this account he had at once employed it in a variety of cases, in which its freedom from disagreeable taste or smell, and absence of causticity, made it more eligible than carbolic acid. He had used it in doses of five grains three times a day, in pill, in gastric flatulence arising from pyloric obstruction; and the same dose, in powder, in a case of sarcinous vomiting. In three cases of the ordinary swelling of the stomach after eating, each in young women, and apparently the result of gastric catarrh, he had used five-grain powders of salicylic acid, combined, in one case, with ten grains of carbonate of bismuth; in another with five grains of pepsine; and in the third with five grains of bicarbonate of soda. The powders were taken at each meal. For foetid breath in dyspepsia he had used it in solution with sodium phosphate, and in pill with reduced iron. As a local application to a foetid and bleeding cancerous ulceration of the cervix uteri, equal parts of salicylic and gallic acids, dusted on the diseased part, through a speculum, stopped foetor and hæmorrhage. In foetid sweating of the feet, the acid, dusted into the soles and toes of the stockings, concealed the disagreeable odour; mixed with lycopodium, he had used it in a case of very great foetor from the scrotum. In ulceration of the mouth, and in pytalism, he had found the sodium salicylate very useful. It might be said, in some of the above cases, the result was influenced by the substances used with the salicylic acid, but he was sure it was not materially so. He had found the plain acid, taken in a dry state, passed very quickly through the system. In four hours after a five-grain dose, he (Dr. Foot) had found his urine respond in the most marked way to the test for the acid, which was the production of a deep magenta colour on the addition of some drops of tincture of perchloride of iron; the urine becoming the colour of dichroic ink. He thought Mr. Lapper's observation on the danger of unsaturated compounds—such as the sulphites and bisulphites, actually accelerating, instead of retarding, putrefaction—very important. He had lately ordered magnesium sulphite, in twenty-grain doses, every third hour, in a bad case of alcoholic pneumonia, in which the breath and expectoration had assumed a marked gangrenous odour. He had to stop the medicine after two or three doses; the patient absolutely refused to take it, said it poisoned him, and made the foetor ten times worse. Sulpho-carbolate of sodium, in twenty-grain doses, every second hour, soon repaired the mischief done by the sulphite, and the patient recovered.

He (Dr. Foot) looked forward with interest to Mr. Lapper's promised researches on the subject of the advisability of the use of unsaturated compounds as antiseptics in the living body.

The PRESIDENT mentioned a case of empyema with pulmonary fistula which was dressed every day with salicylic acid spray. The purulent matter decomposed very rapidly, but the acid produced a very marked effect, in delaying any decomposition for ten days in a portion of the fluid to which it was added. The case recovered faster than any similar one he had ever before seen.

DR. DUFFEY asked if Mr. Lapper had made any experiments as to the antiseptic power of chloral hydrate, to the use of which, as an antiseptic, some attention had been lately directed. There was little doubt now as to the value of salicylic acid as an antiseptic and deodorant. He was at present using the pure acid in a case of otorrhœa in a young child. By sprinkling the acid on finely-carded cotton wool, and rolling this into a pledget, he managed to introduce a considerable quantity of it into the ear. The result was very marked. The discharge was considerably lessened, and from having been extremely fœtid, had lost all its odour. It did not cause any irritation. Salicylic acid appeared to have a great many advantages in addition to its antiseptic properties. Dr. Ewald, of Berlin, in a paper published in *The Practitioner* for the present month, states that his experience, extending over upwards of one hundred cases, mostly of enteric fever, proves the superiority of salicylic acid over all other known antipyretics. It has also been recently recommended in the treatment of acute cases of rheumatism by Staff-Surgeon Stricker, of the German Army, who states that it has a most marked and certain effect in reducing the fever, and relieving the articular pains in a very brief space of time.*

Case of Idiopathic Glossitis. By HENRY GRAY CROLY, F.R.C.S.I.;
Senior Surgeon to the City of Dublin Hospital.

MR. CROLY gave an account of his experience of *glossitis*, a subject to which his attention had been given during the last twenty years. He referred to the pamphlet he had published on the disease, in which he had recorded the details of thirteen cases of acute inflammation of the tongue that had been under his observation in hospital practice, and given the treatment he had resorted to therein. He would now bring under the notice of the Society the case of a horse-shoer, aged twenty-two, who was in his usual good health until the day previous to his consulting Mr. Croly, when he felt a soreness in his tongue. He had been exposed to

* See page 395 of this number.

great heat and chills. The left half of his tongue was swollen and exquisitely painful; tender and hard to the touch; saliva dribbled from his mouth, and his articulation was characteristic of the disease from which he was suffering. He had some dyspnœa and considerable dysphagia. The tonsils were, as is usual, quite unaffected. Mr. Croly commenced his treatment by purgatives; he then dried the tongue, and having placed milk and sugar on it, applied a leech, but the leech would not take. The tongue being still considerably swollen, he made a longitudinal incision into it with a sharp-pointed bistoury. The hæmorrhage was moderate, but there was a considerable flow of serous fluid, followed by immediate relief. In making an incision of this sort there was an important consideration to be attended to. When only half of the tongue was inflamed, it became turned round; and if while it was in that position an incision were made parallel to the raphe, there would be a danger of wounding some of the vessels. This could be avoided by turning the edge of the bistoury slightly outwards. On the other hand, when the whole tongue was inflamed, the incision should be made perfectly straight. The patient did not wish to stay in the hospital, and therefore returned home. Two days subsequently the right half of his tongue became in exactly the same state that the left had been. An incision gave immediate relief. This was enough to show that incision of the tongue, though a slightly painful, was not a formidable operation. No doubt the wound gaped widely when first made, but it was a remarkable fact that, when looked at the day after, it generally showed only a mere line or scratch. Dr. Graves, in his Clinical Lectures, described two cases of this disease, one of which was that of a student, and resulted from the abuse of mercury; the other was a case that occurred in the practice of the late Dr. Neligan. *Transverse* incisions were made in those cases, a practice which would not be countenanced by any surgeon of the present day. Mr. Croly referred to cases which had been recorded by the late Professor Geoghegan. Of the eighteen or nineteen cases that he (Mr. Croly) had recorded, all arose idiopathically, and not one from mercury. As to diagnosis, there was no difficulty in distinguishing this disease. It ran the course of ordinary inflammation. Amongst its causes were exposure to wet and cold, salivation, and erysipelas. It yielded rapidly to active treatment, including purgatives, and free incisions. It began, he believed, not at the tip, but at the base of the tongue, and spread forward; and pressure upon the tongue gave the most intense pain. In making the incision it was necessary to get the bistoury well back. He made it a rule always to puncture the sublingual spaces near the teeth. Mr. Croly said that though idiopathic glossitis was obviously not a very common disease, still it was not so rare as some persons supposed.

DR. PATTON said he had had half a dozen cases of acute glossitis, and in some of them the very thing that Mr. Croly had mentioned occurred—namely, first one side of the tongue became inflamed, and was relieved by an incision, and then the other side of the tongue became affected and had to be treated in the same manner. He had also opened an abscess in the substance of the tongue and given relief by letting out a quantity of matter.

DR. KENNEDY mentioned a case in which a patient after the use of mercury got a swelled tongue, which protruded an inch and a half from the teeth, and nearly half of it had to be removed by two ligatures. No other means that were adopted proved of the slightest use. The woman made a very good recovery. A case was recorded in the "*Transactions of the Pathological Society of London*," of a child who from its birth had a remarkable tongue which hung out of its mouth to a considerable distance.

MR. CROLY, in reply, said he had opened abscesses in the tongue which were the result of glossitis; and he had remarked that, as was usually the case in abscesses of the mucous membranes, that the abscesses were fœtid. In one case the abscess was remarkably circumscribed. The enormous swelling of the tongue in the case that Dr. Kennedy had alluded to, was, undoubtedly, due to the want of an incision. The necessity for cutting off a piece of the tongue would not have arisen if the knife had been previously employed. He looked on incisions of the tongue with very little fear. As to the danger of wounding the vessels, the more the tongue swelled, the farther the vessels would be from the point of incision.

The Society then adjourned.

PROCEEDINGS OF THE DUBLIN OBSTETRICAL SOCIETY.

THIRTY-EIGHTH ANNUAL SESSION.

LOMBE ATTHILL, M.D., President.

J. RUTHERFORD KIRKPATRICK, M.B., Honorary Secretary.

Saturday, February 12, 1876.

THOMAS MORE MADDEN, M.D., Vice-President, in the Chair.

SURGEON-MAJOR JOHNSTON exhibited a specimen, and said:—I have to apologise for bringing such an insignificant specimen as this before the Society; but it is curious from the locality from which I obtained it. It is a specimen of *ascaris* that I found yesterday in the os uteri of a woman on whom I was operating for vesico-vaginal fistula. The woman is not aware of having ever had any worms in the rectum, although it is quite possible that she may have had. We have all read of their having been found in the vagina and the urethra, but this is the first instance I ever met of one so high up. The activity of this little creature was so great that if the mucus had not interrupted its progress it would have made its way higher up.

DR. KIDD.—We read in the books of *ascarides* creeping out of the anus into the lower part of the vagina, but an instance of one of them passing up so high as to enter the os uteri is a new fact. If this worm had established a *habitat* there it might have been productive of serious inconvenience.

DR. F. T. PORTER exhibited a tumour, and said:—This specimen was removed from the body of a female over fifty years of age. My friend, Dr. Stack, kindly examined it and made sections of it. It is a lobulated myomatous tumour, and was connected with the uterus by a thin pedicle. When first removed it was nearly three times its present size, but contracted in the spirits in which it was placed. The subject presented well-marked signs of peritonitis, and the liver was also affected, but she was otherwise healthy.

DR. KIRKPATRICK, Hon. Secretary, read the following paper:—

The Use of the Forceps in "Undilatable" Os Uteri. By EDWARD M'GUIRE, B.A., Q.U.I.; Licentiate in Medicine and Midwifery, K.Q.C.P.I.; Licentiate, R.C.S., Ed.; Senior Scholar for five years, Queen's College, Galway.

MR. PRESIDENT AND GENTLEMEN,—I place the word "undilatable" in inverted commas, because neither my own experience, nor that of authors on Midwifery, as deducible from their writings, seems to justify the use of the word in its strict sense, but only relatively—that is, with regard to the means used to produce its dilatation. In proof of this I quote Dr. Churchill's words (p. 248):—"Our diagnosis (of undilatable os) will depend on the fact that time and pains, with the use of remedies, have failed to dilate it, and that the cervix is as rigid as ever." Dr. Murphy (p. 246) defines this condition of the os as "that in which the os uteri is like cartilage, and will not yield to the most powerful and constant action of the uterus;" but he adds further on—"but there are some instances in which the dilatation is brought to a successful termination by extreme care in the management of the case."

One might, therefore, as well designate a stricture of the urethra as "undilatable" which does not yield to the use of the hip bath, opium, &c., though it might yield to the catheter, as designate an os uteri "undilatable," because it does not yield by bleeding, tartar emetic, &c.

To show that my own experience does not justify the use of the word, I report the following cases:—

CASE I.—I was called to attend Mrs. J. of Cahirgal, in her first confinement, when she had been thirty-six hours ill. Bearing-down pains were strong. On examination I found the os dilated to a circle an inch in diameter; it was dry and hard; during a pain it became as unyielding as cartilage. I gave a cathartic, a hot bath, and tartar emetic, with opium, and made as few examinations as were consistent with my making myself acquainted with the progress of the case. At the end of twelve hours after my arrival, or forty-eight hours from the commencement of labour, I found that the os was still undilated, and just as I found it at first—hard, dry, and apparently as unyielding as leather. The pains were now becoming weak, and the patient beginning to sink. What was I to do? No professional aid was at hand to give advice or assistance. The case was in a remote country village. I had no "blunt-pointed scissors to incise the os." I had a forceps, but I had the *dictum* staring me in the face that "the forceps ought not to be used when the os uteri is rigid and undilatable." I had, therefore, to choose between the alternatives of letting both mother and child die without making another struggle in their behalf, or to follow the maxim, *Strictus jurare in verbum nullius magistri*. I fortunately followed the latter. The head

had fully descended into the pelvis, and was covered by the uterus, except at the os, which had dilated to a circle of about an inch in diameter. The waters had broken long before my arrival. The blades of my forceps were little more than one inch in breadth. I easily introduced one blade posteriorly into the os, which by this very operation dilated to a further extent. Having brought the first blade to a lateral position, I then introduced the other similarly; both blades, thus introduced, formed two sides of a triangle, or rather two sectors of the lateral surface of a cone, the vertex of which was at the handles, where the blades intersect one another, and the base at that part of the head of the child where the blades at their widest part grasped it. The blades diverged from one another at an angle of about forty degrees, and over these the os was stretched, touching the head of the child at two points equidistant on either side from where it touched the blade of the forceps. I applied no tractile force for some time to the forceps. The pains increased; the os gradually glided along the forceps and over the cone formed by them, and the head of the child. The latter was delivered alive and uninjured, and the mother made a good recovery, and still lives to tell the tale, and has now many other children without instrumental aid.

CASE II. is very like the last. It is that of the wife of Mr. W., engineer on board the steamer "Eglinton," plying between Galway and Cong. I was called on to attend her early in her confinement. It was that of her first child. During the first twenty-four hours, though the pains were regular and severe, the os dilated only so far as to admit the introduction of the finger, and during the next twenty-four hours it remained hard, dry, and gristly, and dilated only so far as to admit the introduction of two fingers. At this time the womb, including the head, had descended into the pelvis, the pains became feeble, the pulse frequent and weak, and the patient so prostrate that she could hardly turn in her bed. I applied the forceps as in the previous case, and with a similar result. The mother was up on the eighth day, and she and her child are now perfectly well.

CASE III. differs considerably from the two preceding. It was that of the wife of Constable R., of Maam. Abortion set in about the fifth month of pregnancy. A nurse in attendance, finding the feet presenting, pulled so hard upon them that an undilated os separated the head from the body, leaving the former, and of course the placenta, in the womb. I was sent for on the occurrence of the accident, but could not arrive (the distance to be travelled to and from being twenty-eight miles) till about twelve hours after it happened.

I was assured of what had happened by seeing the headless body of

the child, and by introducing a finger into the os I felt the head rolling like a ball in the uterus. The os had so contracted that I could by no means introduce the hand or fingers for the purpose of extracting the head. I succeeded, however, in introducing one blade of the forceps; and by pinning the head between the concave side of the forceps and the anterior wall of the uterus, the head having to a certain extent caught in the eye of the forceps, I was enabled to extract it through the os. This became so dilated that I succeeded in introducing my hand, and in detaching and removing the placenta. The mother made a good recovery.

These are not cases selected for show, and having a "black list" behind them; they are a few taken at random from my ordinary practice, and brought forward simply as facts, to show that the forceps have been used successfully in cases of "undilatable" os.

It may be argued that neither these nor any other of mine were cases of "undilatable" os in the usual acceptation of the word. In reply to this, I have to say, that during the past sixteen years I have attended every difficult case of labour that occurred among a population varying from 7,000 to 14,000, and that I used the forceps in every case similar to the forementioned ones, and with unvarying success. One of two conclusions, therefore, logically follows—namely, either no case of "undilatable" os has occurred among such a large population during sixteen years, or such cases have been successfully treated by the forceps.

It will be argued, too, that this course of treatment is to effect by violence what Nature intended to effect by gentle means. Even if this argument were correct, it would hold with equal force against every other surgical operation; but I submit that the method acts in quite the contrary way—that it is, in fact, a close imitation of Nature's plan to dilate the os, for every author on midwifery states that her principal means of dilating the os uteri is by inserting into it from above the apex of a cone the bag of the waters, and that when that cone is absent, or too early destroyed by the bursting of the waters, rigidity of the os is likely to be the consequence.

The forceps introduced, and used as I have pointed out, form two sectors of the lateral surface of a cone, and act in the same way, but far more effectually than the bag of the waters could do, to dilate the os uteri. But the principal objection to the operation is that rupture of the cervix extending into the body of the uterus may occur. My experience is against this. I have never known such an accident to occur, nor, indeed, could it be caused by the forceps properly used. When both blades of the forceps are introduced, the handles should not be suddenly, but very gradually, closed; you can thus graduate the dilating force on

the os to what it can bear with safety. No traction should be used till the os is sufficiently dilated to warrant a fair prospect that the head can pass through. Even if a rupture of the os did occur, it is not at all so likely to extend into the body of the uterus as would a rupture which had for its commencement an incision made with a scissors an inch through the cervix. The only operation with which this has to be contrasted is incision of the cervix, for the method of delivery by craniotomy in cases of undilatable os is now justly exploded. When delivery is effected by making four incisions in the cervix, one to four cicatrices are left in an already "undilatable" os, which renders it more undilatable, and hence at the next confinement there will be an *à fortiori* reason for performing the operation again. This occurred in Mr. Butler's case, where the cervix had to be incised in two consecutive labours. The use of the forceps, instead of increasing the rigidity of the os in succeeding labours, so vastly diminishes it, that I have never known the os to be rigid in subsequent labours.

After having written the foregoing I had the pleasure of meeting Dr. Gogarty, who kindly drew my attention for the first time to Dr. Johnston's Fourth Clinical Report of the Rotunda Lying-in Hospital, published in the "Proceedings of the Dublin Obstetrical Society, 1872-3," and the discussion thereon, from which it appears that he used the forceps in thirty-five cases before the os was fully dilated. And Dr. Kidd states that he himself saved lives by the adoption of that practice; and Dr. Darby states that no case ever did better than one in which he delivered with the forceps when the os was not larger than a five-shilling piece. I am proud to find that I have been anticipated in the publication of such cases by such men, and I cannot conclude this paper better than by quoting the words of Dr. Johnston:—"Why should we permit a fellow-creature to undergo hours of torture when we have the means of relieving them in our reach? Why should she be allowed to waste her strength and incur the risks consequent on the long pressure of the head on the soft parts, the tendency to inflammation and sloughing, or the danger of rupture, not to speak of the poisonous miasm that emanates from an inflamed state of the passages, the result of tedious labour, and which is one of the fertile causes of puerperal fever and all its direful effects?"

The PRESIDENT.—It is not usual to discuss at length the communications of absent authors, but it strikes me that this important communication ought not to be allowed to go forth to the public without some discussion of the principles it enunciates. I presume Dr. M'Guire does not use the word "undilatable" in its full sense, but rather as indicating a class of cases in which the os has not dilated fully; and my own opinion is that cases of that sort, from time to time, do arise in which the use of the forceps is legitimate, but I think it would be dangerous to

say that it may be used in all cases in which either the os dilates very slowly or refuses to dilate.

DR. CRONYN.—We know that incision of the os is one of the methods of treatment prescribed in the books, and, no doubt, cases may occur in which it is useful; but I have seen a great many cases of midwifery, including cases of rigid, undilated, and unyielding os, and I never saw that practice resorted to. I have conversed with several gentlemen of greater experience than myself, and they have never adopted such a proceeding.

DR. KIDD.—The writer of this paper has referred to some observations of mine as advocating the mode of practice he has adopted, but I deny that I ever used the forceps in such cases as he has described. I never used the forceps in anything that could at all be called an undilatable os uteri. If I remember rightly, the words I used at the discussion on Dr. Johnston's Fourth Report of the Lying-in Hospital were to the effect that in exceptional cases—as convulsions, for instance—it might be wise to use the forceps before the os was fully dilated, and even to incise the os, if necessary, for the purpose; and on other occasions I have explained my opinions on this subject at considerable length. But it is a misrepresentation of my views to say that I ever used the forceps in the case of an undilatable os, or in such an os as the paper describes. It seems to me that no practice could be worse. If you meet with an os uteri an inch in diameter, and in the condition which this gentleman describes as undilatable, and you force a pair of forceps into it, you endanger the life of the patient. The process described in the paper is, strictly speaking, not a forceps operation at all. We use the forceps for the extraction of the child; but the author of the paper did not use the instrument to extract the child, but to dilate the os. He says the forceps formed an oblique plane, over which the os gradually glided up. In using it so I believe that he ran the risk of lacerating the uterus, and there is no saying where that laceration might have ended. The cases, no doubt, terminated fortunately; but no amount of fortunate cases would convince me that the practice is a safe one. If we want to dilate the os uteri, we have a far better instrument for the purpose than an iron forceps used as a wedge to force it open. I believe there are few cases of the sort that will not yield to opium or other treatment. If, instead of employing the forceps, he had given that woman a full dose of opium, and put her into a warm bath, and put her asleep for an hour or two, the os would probably have dilated without further trouble and risk. Had that treatment been inexpedient, Barnes's bags might have been used. As to incision of the os, I do not think the author of the paper has represented that matter correctly. I do not think that in a

case of rigid os any one ever recommended an incision an inch deep. I have never performed the operation, never having seen a case that required it, but I have more than once stated here that I was prepared to do it in a case of emergency. When it is necessary, I believe it can be done safely and efficiently by making a series of incisions all round the circumference of the os of from an eighth to a quarter of an inch in depth. With regard to the case mentioned of the use of the forceps in the fifth month of pregnancy, I think if a tenaculum had been used to draw down the head it would have effected delivery with far less violence to the patient.

DR. DENHAM.—I endorse the statements just made by Dr. Kidd. I think it would be very unfortunate if such a paper as that which has been read were allowed to go out stamped with the approbation of this Society. I think nothing can be more reprehensible than the idea of passing a forceps into an os not only not dilated but undilatable. The amount of delay which frequently occurs in cases of the sort is very remarkable. Some time ago I had under my notice a case of a private patient some forty years of age, who was five days and five nights in labour arising from a rigid os. She got opium again and again, and warm baths, and at length the os dilated and we applied the forceps and then the crotchet. If we had attempted to deliver before the os was dilated I feel assured that we should have not only incurred great blame and odium if we had injured the child, but we should also have endangered the life of the mother. As to incision of the os round its circumference, I believe that the benefit greatly depends, not on the extent of the incision, but on the amount of hæmorrhage that takes place, and thus relieves the over-tension of the os itself. The incisions should be very small.

DR. JOHNSTON.—I consider it most unjustifiable to attempt to use the forceps in a case of undilatable os. There is a very great difference between the os undilatable and the os undilated. In many cases I have found that I could, by first getting in my fingers, expand the os to a sufficient degree to enable me to apply a forceps nearly two inches wide; and that mode of proceeding has been attended with, I may say, great success, inasmuch as I have had about 170 cases in which delivery was accomplished before the os was fully dilated. Out of these ten deaths occurred, and it was satisfactory to find, on the *post mortem* examination of each of these cases, that in no one instance did the uterus present a trace of inflammation, or was the cervix fissured beyond the extent that usually takes place in all primiparous cases. Although I am an advocate for the application of the forceps, under certain circumstances, in the first stage of labour, I at the same time caution every one that it

should be done only by a skilful hand, for there is great danger that if the instrument be unskilfully or incautiously used, the blade may slip over the cervix into the posterior *cul de sac*, and cause most serious injury. It is astonishing, when once you get the blades inside the os, and adjusted properly, how, by slight traction, it will gradually expand in, comparatively speaking, a short space of time. With regard to rigid os, I was only obliged to incise it on one occasion, after all the other methods of expanding it had failed, the os remaining as rigid as a bar. I incised it on the left side, cutting to the extent of a quarter of an inch, and was able then to dilate it and accomplish delivery. As to Barnes's dilators, I think they are far more dangerous in the hands of an unskilful person than the forceps. In a case where the waters have escaped, and the head of the child is pressing upon an undilated cervix, the difficulty of passing a Barnes's bag within the os is much greater than that of dilating the os with the fingers. I saw one case in which a Barnes's dilator had been pushed into the posterior *cul de sac* and caused such frightful laceration that the poor woman died within two hours.

SURGEON-MAJOR JOHNSTON.—I cordially agree in what Dr. Kidd and Dr. Denham have said as to non-interference in the first stage of labour. In a case of undilated os which I was treating a few years ago, I was tempted to apply the forceps, but called in Dr. Kidd, who, after seeing the woman, recommended a full dose of opium. We passed six hours in watching the case, and then the os dilated and she was delivered without injury. Since that time I have fallen into the practice of administering chloral, followed by inhalation of chloroform, which I have found to be good. The woman gets a sleep, and there is a temporary suspension of the labour.

DR. F. T. PORTER.—Two or three times in cases of rigid os I gave full strong doses of opium, and found that they had a very good effect in helping to dilate the os, but I was surprised to find the almost fatal effect it had upon the child. Full doses of opium are dangerous to the children. I have seen them born in convulsions after doses of opium.

THE PRESIDENT.—Though I entirely disagree with the principles of practice laid down by Dr. McGuire, I think at the same time it should be borne in mind that the heading of his paper is calculated to mislead, for I do not think he really means to apply this practice to the "undilatable" os, but merely to cases in which the os has not dilated, and, as Dr. Kidd has already pointed out, he uses the forceps as a dilator, and not as a tractor. His words are:—"No traction should be used until the os is sufficiently dilated to warrant a fair prospect that the head can pass through." I think he treated his first cases judiciously, not having

Barnes's bags by him, but I entirely disapprove of his practice in so far as he recommends it for general application. I believe that in certain cases it is judicious, and that it may be successfully adopted. On the other hand, I am quite sure that if it were generally applied in cases of undilated os the most serious and injurious effects would follow. Opium may occasionally be beneficial, but I give a decided preference to chloral. Chloral given in doses of 10 or 15 grs., at intervals from fifteen to twenty minutes, constitutes, in my opinion, a much better treatment than opium. It is as likely to produce sleep as opium, and certainly has as decidedly relaxing an effect on the os uteri. I have been surprised at the wonderful effect produced by a few doses of chloral in a case where the os had not dilated, and appeared to be indisposed to dilate. I think, on the whole, it is a safer and better remedy than opium. I never incised an os, or saw a case in which it was deemed necessary to perform that operation.

DR. MORE MADDEN.—As the question of the propriety of incising the cervix in certain cases of labour, rendered difficult by obstinate rigidity of the os uteri, has been referred to by several speakers during this discussion, and as the obstetricians who are opposed to this measure do not appear to have practised it themselves, I may mention that I have been obliged to resort to this expedient, with great advantage, more than once in cases in which delivery could not be otherwise accomplished. This step, however, is only to be regarded as the very last resource in such cases, as one of puerperal convulsions which I published in our Proceedings a couple of years ago, and in which I succeeded in effecting delivery by incision of the cervix, after all other means had failed to overcome the rigidity of the os. With regard to Dr. M'Guire's paper, I think, Sir, that this Society is under an obligation to him for bringing it forward, and that we are always glad to welcome the practical contributions of our country brethren, who have oftentimes, single-handed, to deal on the moment with complex and difficult cases of labour, in which we in cities have the assistance of others, and I think that the record of their practice and experience is a most valuable and interesting part of our Proceedings. The paper we have just heard is evidently the work of an able and original thinker, as well as a bold practitioner, though I must add that I entirely disapprove myself of his practice of applying the forceps in the first stage of labour, without some urgent necessity and under exceptional circumstances, as an injudicious and meddlesome interference with Nature.

Adjourned Discussion on DR. MORE MADDEN'S Paper.

The PRESIDENT then called on Dr. Cronyn to resume the discussion on Dr. More Madden's paper.

DR. CROFTY.—So far as my individual opinion goes, I cannot consider the forceps exhibited by Dr. Madden as in any degree an improvement on the instruments in use. Ever since I was an assistant in the Lying-in Hospital, and for many years, I have used Beatty's forceps, and only on two occasions have I had recourse to the long forceps. I only met with two cases in which the application of Beatty's forceps was not successful. Dr. Kidd, on a former occasion, correctly laid down three situations in which the forceps might be used. The same principles are laid down by several authors, including Dr. Murphy, in his work on Midwifery. He notices three situations in which the head may be placed, and in which the use of the forceps is admissible—namely, at the lower outlet, in the intermediate portion of the cavity of the pelvis, and where the head is above the brim—and he describes the two kinds of instruments which he recommends for use in the first and third of these cases. In the first he recommends the short forceps of Denman and Collins, and in the third he recommends the long forceps. Further on, describing the instrument of Beatty, he says that it, or a modification of it slightly different from the original, is the proper instrument to be used. I have no hesitation in saying that, while I quite concur in the view that the long forceps should be used where the head is above the brim of the pelvis, I think Beatty's forceps admirably adapted for cases where the head is at the lower outlet of the pelvis, or in an intermediate position in the cavity. The forceps exhibited here by Dr. Madden and the short forceps of Dr. Denman appear to be defective in power—the handles are too short, and the blades are too short and too slight. They have no compressing power whatever, and though the forceps, as a compressor, does not possess much power, still I think we all agree that a good firm hold should be obtained of the head, and that the risk of the forceps slipping off when you have them attached to the sides of the head should be reduced to a minimum. I think the instrument in question totally incapable of competing with Beatty's forceps, although it may be an admirable instrument when the head is in an intermediate position. Most of the speakers have referred to the forceps of Barnes. It is an excellent forceps, but I have compared it with the long forceps of Simpson and the long forceps of Ramsbottom, and I cannot find that it is superior to either of these; and, in my opinion, it is not equal to the long forceps of Simpson, which possesses steps on the handles, to which the fingers of the left hand can attach themselves, and powerfully assist the traction of the right hand. The pelvic curve of the three instruments is almost identically the same. There is extremely little difference in the weight or length of any of them. I never used Simpson's. I have used Ramsbottom's and Barnes's, and can see no difference between them. Of course, if I used the long forceps exhibited by Dr. Madden, I might find it the equal of any of the others, but the appear-

ance of it I did not like as well. I have no doubt that almost any forceps in the hands of an experienced operator would be capable of producing beneficial effects; and I am convinced that Dr. Madden, in bringing this forceps for exhibition, did so under the perfect conviction that it is capable of being at least as useful as the forceps of any other inventor or originator, and I am quite sure that in his hands it would be perfectly efficacious; but for the reasons I have stated I particularly condemn his short forceps, as being, in my judgment, unequal to its work.

DR. DENHAM.—I think the real question is as to the time when the forceps should be applied. Denman and other old authors give us a long string of symptoms which, when present, indicate at once the propriety and necessity of using the forceps. The grand question is, whether you are to anticipate those symptoms. That is the great point of difference between the practice of the present day and that of the days of Denman. As to waiting until the pulse gets to 100 and the tongue becomes dry, and the original discharges fœtid, I believe that if we do that we run the chance of missing our mark. I am satisfied that a great deal of mortality in midwifery practice has arisen from waiting too long. We should steer a middle course. There is just as much danger to be apprehended from a too early application of the instrument. If we could insure to all our country practitioners a three years' practice in the Lying-in Hospital as assistant physician, and a seven years' mastership of that institution, we might then allow them to apply the forceps, even in cases of undilated os. I have rarely seen any injury to result from waiting until the first stage of labour has passed, and the os has fully dilated. Dr. Johnston, in his table, has given us 170 cases in which he applied the forceps before the os had fully dilated, and out of these he had 10 deaths. I should say, that if any one of us were assured that 10 deaths would occur out of a practice of 170 cases, he would feel very uncomfortable. I should sleep very little with such a prospect; but, no doubt, cases in the Lying-in Hospital and private practice are different. Experience says that if you wait until the os is fully dilated there is rarely any danger of death to either mother or child. No doubt it is sometimes very disagreeable to wait hour after hour; still I believe that by the application of chloral, opium, and warm baths, dilatation can be accomplished in 99 cases out of every 100. With respect to the kind of forceps to be used, I think it is very like the case of the little boy who could read best in his own book. Whatever instrument we are most accustomed to we can use best. I am in the habit of using a straight forceps. As to the double curve, I believe it to be of no value whatever. The cases Dr. Johnston has brought forward are of great importance, for there are, no doubt many cases of convulsions or hæmorrhage in which we may be called on

to use the forceps even before the os has fully dilated, but it must be dilatable.

DR. MACSWINEY.—It should be recollected that Dr. Johnston's mortality was 10 out of 170 cases, not of ordinary midwifery, but of applications of the forceps.

DR. DENHAM.—What I object to is the introduction of a practice that would hasten labour to an enormous amount, simply in order to save the patient pain, and to save our own time.

DR. JOHNSTON.—Comparing my table with others of midwifery practice, I consider the mortality a low one. In some of the tables I found that the mortality in forceps cases was 1 in 10, or 12, or 14, while in my cases of operations, before the os was fully dilated, the mortality was only 1 in 17. At the same time I warn everyone to be cautious about the operation. It is a dangerous one in the hands of an unskilful person; at the same time we should not hesitate about adopting it in proper cases, merely because tyros cannot perform it. You might as well say that great surgical operations should not be performed, because there are men who could not venture upon them. I am convinced that by the operation in question I have saved the lives of both mothers and children that would otherwise have been lost. As to the instrument to be used, I should recommend whatever a man has been accustomed to. No doubt the double-curved forceps of Sir James Simpson, the forceps of Ramsbottom, and that of Barnes are all modifications of one another. I suggest Barnes's, because it is lighter than Sir James Simpson's, and possesses all the powers that are required. Sir James Simpson's is a heavier instrument, and neither so portable nor so easy of manipulation.

DR. GOGARTY.—I think that any forceps which will reach the child's head will answer the purpose very well, so long as the head is above the brim of the pelvis. On two occasions on which I was obliged to use instrumental aid, I totally failed with the ordinary forceps of Beatty. On one of these occasions I called on Dr. Johnston, and with great difficulty we delivered the patient by means of Barnes's double-curved forceps. The other case was that of a young woman in her first confinement, and we were obliged to resort to Churchill's forceps.

SURGEON-MAJOR JOHNSTON.—Dr. Madden states that he has designed his forceps for the delivery of living children that could not be delivered alive by other instruments, and he asserts that he has delivered women of living children by version or by the forceps who had previously been delivered by craniotomy. It would be very important if we could get

a forceps that would be a substitute for either of those modes; but on looking over Dr. Madden's cases I find only one in which craniotomy was previously resorted to, and in that case he delivered with the short forceps.

THE PRESIDENT.—The argument that a woman had been delivered of a living child with a pair of forceps, who had previously been the subject of craniotomy, requires to be taken with very great reserve. If a woman having an under-sized pelvis carries a child of large size—as occurred the other day at the Rotunda Hospital in a case in which the child weighed nine pounds and some ounces—it might not be possible to deliver her by any means save by craniotomy; whereas in a second pregnancy, and carrying a child of not more than six pounds, she might be delivered by natural efforts, aided by the smallest-sized forceps.

DR. MORE MADDEN, in reply, said:—As upwards of six months have elapsed since I read the paper before the Society, I may, perhaps, be permitted to recal to you what the subject of that paper was. It dealt with the history and use of the long forceps as a lever and compressor, and the short forceps as a tractor, and was divided into two parts, only one of which has attracted attention in the discussion which has taken place. The first object I had in view was to point out, from the history of the forceps, that from the time of its first introduction the practice early prevailed of employing that instrument, as is again now recommended by some practitioners, in the first stages of labour, with very slight necessity, as a means of saving the woman some suffering, or to get away more quickly from a tiresome or wearisome case. I proved this by quotations from the works of Giffard, Chapman, Smellie, and other early authorities on the forceps. And I showed, by a reference to the medical literature of that time that, despite the reiterated warnings and excellent rules of practice laid down by these and other judicious writers, this “noble instrument,” as one of them well terms the forceps, became so abused—that is, prematurely and improperly employed—by the uneducated men-midwives, who appear to have largely usurped the practice of midwifery in England from the early part of the seventeenth century down to the time of the ever-prudent Denman at the close of last century, as to lead to a reaction against this abuse, the result of which was to exclude the forceps for a long period from its legitimate place in obstetric practice. And I think that we who advocate the timely and judicious use of this most valuable instrument, should, in considering the expediency of the very early and frequent employment of the forceps now advocated by some eminent accoucheurs of the present day, bear in mind the moral pointed by the history I have briefly referred to. Having thus, for this purpose, sketched the history of the

forceps in my paper, I next described and exhibited to the Society two instruments intended for distinct purposes, though both are midwifery forceps. The first of these was a short instrument, which I have found very useful as a tractor in the majority of cases where the forceps is required—namely, when the birth is long delayed by inertia in the second stage of labour. I did not venture to show this forceps as an untried instrument, but as one the utility of which I have proved by successful employment for some years, and in a large number of cases. I may mention, also, that it has been already exhibited before other medical societies in London and elsewhere, and that it has been extensively used in other countries, as well as in this, by gentlemen who have in several instances been good enough, since this discussion commenced, to express their satisfaction with it. Therefore I do not think that the disapproval of some obstetricians, for whose opinion I entertain the highest respect, but who have not seen this instrument used, can outweigh the experience of those who have practically tested the advantages of this easily-applied, comparatively safe, and generally useful short forceps. The second instrument which I exhibited is only intended, and is specially suitable for those fortunately rare cases in which no other forceps could, I believe, be successfully employed—namely, where it is necessary to afford instrumental assistance before the head of the child has passed through the brim of the pelvis. I need not remind this Society what these cases are, nor how serious, and fortunately how comparatively infrequent they are. But in them, as I have shown in my paper, I have, with the instruments I have here exhibited, succeeded in extracting the child alive with safety to the mother in cases in which, without such assistance, one or both would have perished. I regret very much that the lateness of the hour does not permit my replying *seriatim*, as I had intended to do, to the several speakers who have done me the honour of discussing my paper. The President has most clearly stated the points at issue; but I do not think the instruments he has exhibited from the museum of the hospital are at all like mine. Dr. Byrne considers that the mortality in my forceps cases was very high, but this charge is hardly borne out by the facts. The tables I read will, I think, bear a comparison with those of any practitioner who relates his cases as accurately as I have done, whether they were favourable or not favourable. They contain an account of 163 cases in which I applied the forceps in both hospital and private and in consultation practice. Of these cases many were of the most unfavourable kind, including rupture of the uterus, convulsions, hæmorrhage, and other such cases, in which the women must have died if they had not been delivered; and out of all these only eleven died, and of the eleven one woman died three weeks after her confinement from typhoid fever, and another nine days after it from secondary hæmorrhage. Of those remaining, one was moribund

from rupture of the uterus when delivered; two died from convulsions when delivered, and others died from epidemic disease then prevalent. Dr. Johnston characterises my forceps as a weak instrument; but is the one of which he is an advocate as safe in hands less skilful than his own? I have seen the cervix split up by the injudicious use of a double-curved long forceps in the hands of an inexperienced and unskilled practitioner. Although every caution may be impressed on pupils, still you cannot answer for their judgment; and, moreover, in the great majority of cases where the forceps is employed, if the patient were only left to Nature, the delivery would, in all probability, be ultimately, though, perhaps tardily, accomplished by the natural efforts. I think, therefore, that we ought to be very cautious before we depart from the time-honoured principle of allowing Nature to effect delivery, unless there be some urgent reason to the contrary.

The Society then adjourned.

PROCEEDINGS OF THE PATHOLOGICAL SOCIETY OF DUBLIN.

President—HENRY KENNEDY, M.B., F.K.Q.C.P.

Secretary—E. H. BENNETT, M.D.

Cancer of the Liver.—DR. JAMES LITTLE said: This specimen exhibits in a tolerably typical manner the usual characteristics of malignant disease of the liver—what is called Farre's tubercle of the liver. We find on the surface of the liver, which is the position usually occupied by malignant disease, a number of whitish nodules, which stand out and are sharply defined from the surrounding liver structure. They vary in size from a three-penny piece to a half-crown, and all present very distinctly depressions in the centre—a condition which appears to arise from destructive atrophic changes in the centre of the malignant mass while it is spreading at the circumference. The specimen also presents an usual feature of malignant disease of the liver—namely, that it is secondary to malignant disease of the stomach. On laying open the stomach we see this fungoid mass, which the history of the case justifies us in believing was the original disease. A large portion of the left lobe of the liver is broken down, and converted into an almost diffuent pulp. It is not a true inflammatory abscess, but rather a sphacelus, or gangrene, which I believe to have been caused by the malignant disease destroying the nutritive vessels of the area which has been broken down. There was purulent lymph between the upper surface of the liver and the diaphragm, and a small encysted pleurisy at the lower part of the right lung. The clinical history of the case is interesting, from the fact that though a short time before the death of the patient the nature of the disease from which he suffered was tolerably apparent, during the greater part of his residence in the hospital the symptoms were not sufficiently distinct to lead me to a correct diagnosis. The man was ill since January last, and his symptoms had been comparatively vague, consisting in loss of appetite, gradual loss of flesh and strength, and some uneasiness in the epigastrium and right hypochondrium. He complained of pain, and latterly of continuous pain, but of a dull and comparatively unobtrusive character, such as one could hardly believe to indicate such a large amount of disease. There was one thing about him which in obscure cases will often justify the belief that malignant disease exists—namely, his mental condition was one of peculiar apathy. I have elsewhere drawn attention to the assistance that this often gives us in distinguishing between intra-thoracic tumours that are malignant and those that are aneurismal. The

apathetic, apparently resigned, and indifferent state of the man who has malignant disease compares very strongly with the irritable, anxious condition of the man who suffers from an internal aneurism. The diagnosis I myself made in an early period of the case was that he had a small abscess in the liver—an idea suggested by the fact that the man had been a soldier in the tropics, and that while his symptoms pointed to hepatic disease, he had on several occasions well-marked rigors. Altogether the clinical history was marked by the comparative slightness and indistinctness of the symptoms—the one symptom of loss of appetite being perhaps the one principally worth noticing. In the beginning of malignant disease of the stomach the first symptom—long before pain is complained of—is, according to my observation, persistent loss of appetite.—*December 11, 1875.*

Vesical Calculus, Oxalate of Lime.—DR. WILLIAM THOMSON said: These specimens were removed from the body of a man, aged seventy-four, who died in the Richmond Hospital in the early part of last summer. He first presented himself at the dispensary, complaining of some urgent urinary symptoms; and at the time his case exhibited many prominent points which indicated that he was suffering from urinary fever. He was admitted into the hospital and placed under treatment. On examining his rectum, being guided by the symptoms he described, I found a considerable tumour, caused by an enlarged prostate gland. He was suffering from great irritability of the bladder, and was unable thoroughly to empty it. At that time I thought I had simply to deal with a case of enlarged prostate, having regard to the man's age and the history he gave of his case. He said that he had never had any trouble with his urinary organs until about nine months previous to his admission to the hospital, and that from that time up to about a week before his admission he had simply suffered from occasional irritability and a need to pass water frequently during the night, so that the symptoms rather led me to believe that he was suffering from retention of urine, caused by this enlarged prostate; and, accordingly, I treated him for that. I took the precaution of mentioning to the class, when speaking about the case, that it was quite possible he had, in addition to this enlarged prostate, a calculus; that, in the condition of high fever in which he then was, with violent cystitis, I did not deem it expedient to make any exploration, but contented myself with passing an ordinary gum-elastic catheter, from time to time, in order to relieve the bladder of urine. His symptoms went on from bad to worse; and, finally, he died about three weeks after his admission to the hospital. On making a *post mortem* examination, which was done by the late resident Surgeon of the hospital, Dr. Stack, it was found that the bladder presented the ordinary appearance which we have in cases of chronic cystitis. We have the usual columnar masses

covering the whole of the interior surface of the bladder, and it is of the purplish colour that we generally find in these cases. On looking to the posterior and inferior portion of the bladder, we find a small pouch into which a mass about the size of an ordinary playing marble would fit. The tissue here was extremely thin; and, on further examination, it was found that a quantity of pus had passed out through a small frayed opening at the bottom of this pouch into the pelvic cavity. The kidneys were both the seat of very extensive disease. The whole surface of the left kidney is thickly studded with small abscesses, looking like pustules, and varying in size from that of a grain of wheat to that of a fourpenny bit. On the same side also the capsule of the kidney had been separated, and formed a very large perinephritic cavity filled with pus. In the other kidney we found similar conditions, the whole surface of it being covered with small pustules or abscesses. The substance of both kidneys was greatly disorganised. We found, in addition, that my suggestion as to the possibility of a calculus being in the bladder was correct; and I have here this beautiful specimen of an oxalate of lime calculus, one sufficiently common, generally speaking, but which is somewhat rare in this country. It is otherwise known, from its general characteristics, as the mulberry calculus. This one weighs 144 grains, and consists of a central mass, about the size of an ordinary playing marble, from which spring a large number of processes—some twenty-five or thirty—extending outwards for about a quarter of an inch, well separated from each other by distinctly-marked interstices; and on the surface of these projecting processes are a number of smaller elevations which, as they now appear, are very like small dark-brown purse-beads, polished. Amongst the chief points of interest in the case is the fact of this calculus being found in the bladder, although the symptoms only became urgent shortly before death. This, possibly, may be accounted for by the existence of the pouch, in which the calculus was, no doubt, encysted for a certain time until it finally made its way into the general cavity of the bladder and set up the irritation. The very slight amount of phosphatic deposit upon the stone, barely amounting to more than a mere stain, serves to show that it cannot have been long exposed in the bladder.—*December 11, 1875.*

Enteric Fever, with Extensive Lesions and Typhus Symptoms.—**DR. JAMES LITTLE** said: I have here the ileum and colon of a woman thirty-three years of age, who died on the thirty-second day of enteric fever. I think the specimen worth showing—first, on account of the large extent of the intestinal tract which was affected; and, secondly, on account of the exceedingly misleading symptoms which were present during life. Close to the ileo-cæcal valve we have the Peyerian patch, which is such a favourite seat of enteric mischief, almost destroyed, a gray slough

covering the spot. Proceeding a little way up the ileum we find several ulcers—not, indeed, such exaggerated ulcers as have often been shown here, but very characteristic ones—the edges of the ulcers considerably elevated and sharp, and their floor thin and smooth. It is not the exaggerated character of the appearances at any one spot that is so conspicuous, as the great extent of the intestine involved. Proceeding upwards in the intestinal tube, we find ulcers as far as nine feet from the ileo-cæcal valve—an extent of the small intestine not usually involved in enteric fever. In the large intestine we find appearances resembling those found in cases of acute dysentery—that is, the mucous and sub-mucous tissues are sodden and swollen, and the mucous membrane roughened and thrown into folds, and superficially excoriated at points. This condition is present in the whole of the lining membrane of the large intestine.

The symptoms, as I have said, during life were extremely misleading. I am aware that the President has described very fully what he called mixed types of fever; and, certainly, this case, which was manifestly one of enteric fever, fully deserved the other name which we are in the habit of applying to enteric fever, because I never saw a case which put on more unmistakably the *ædœ* of typhus. In the first place, as to the onset of the disease, it began with great abruptness, by a well-marked rigor, followed by vomiting. On the twenty-first day there was an apparent attempt at crisis—the woman, having been on the previous day apparently dying, showed on the twenty-first morning an entire change in her condition, we thought, in consequence of the discharge of a large quantity of loaded urine. Her nervous symptoms from the first much more closely resembled those of typhus than of the form of fever under which she was labouring. She had a dull frontal headache, which disappeared about the seventh day. From the first she had that prostration which is so conspicuous a mark of typhus. She was admitted into the hospital on the fourth day of her illness, and as she sat in the hall she had that struck-down, prostrate look that a person in typhus has who is trying to sit up. The symptoms connected with the digestive apparatus were suggestive rather of typhus than of enteric fever. Early in the disease her tongue had the pale, blanched, clean edges that are so conspicuous in most cases of typhus fever in its early stage. Afterwards it became covered with a thick fissured fur, and later on, when she attempted to protrude it, the tip of the tongue got caught behind the lower teeth, and the dorsum appeared as a shrivelled mass, as it does so conspicuously in bad cases of typhus. The abdomen at no time was distended; it was always soft, and towards the end of her illness became shrunken. There was abdominal tenderness indeed, but it was not localised, but diffused. There was diarrhœa, but the stools had not the ochrey appearance of enteric stools, but were more like dysenteric

stools—an appearance which the *post mortem* appearance of the large intestine fully explained. The circulatory system was very much affected, as in typhus—instead of the full dichrotous stroke common in enteric fever, the pulse in the early part of her illness was small, and towards the latter part of it had that peculiar continuous ripple which the pulse has in most bad cases of typhus. During the last three days of her life also there appeared a phenomenon not often seen in enteric fever—namely, a parotid swelling, which, no doubt, occasionally occurs in enteric fever, but is not at all so common as it is in typhus. As to the eruption when she came in, there was what appeared to be a mottling on the surface of the abdomen, but this was subsequently explained by the fact that she had been very assiduously fomented, and had had mustard plasters applied constantly over her chest and abdomen before her admission. Soon after her admission, when there was time for the spots of enteric fever to appear, a few spots appeared about one mamma. These spots were certainly like the spots of enteric fever, as they were raised and rather rose-coloured, and disappeared on pressure. All these disappeared, and no fresh ones of similar character came out; but we did find in a position where the typhus eruption is usually marked—namely, on the lower lumbar and sacral regions—a good many non-elevated brownish *maculae*. The temperature sometimes was very like that of enteric fever, but not by any means habitually so. On many days during her illness there was a difference of $2\frac{1}{4}^{\circ}$ or 3° between her morning and her evening temperature, while on other days the difference was very slight, and sometimes the morning temperature was higher than the evening. With respect to one other symptom to which I always attach great importance, there was in this instance a difference as to the matter of fact. I never could discern any typhus smell from her, but the nurse, who was a very experienced person, said that she had it. There were symptoms during the commencement of her illness which made some of the more experienced of the class adhere to the original diagnosis of enteric fever which they made before I saw her, notwithstanding my conviction that it was a case of typhus, and the very determined assurance of the nurse, that no patient in enteric fever ever moaned, or had the smell that she had. About the twenty-second day, however, there was violent hæmorrhage from the bowels, and subsequently there was no reasonable doubt as to the true nature of the illness. She had no epistaxis and no enlargement of the spleen, although after death it appeared softened; the mesenteric glands were not enlarged, or, at all events, very slightly so.—December 18, 1875.

CLINICAL RECORDS.

Notes from the Wards of the Cork Hospitals. Communicated by Mr.
MARTIN HOWARD.

A few Words about Skin-grafting. Suggested by some clinical remarks upon two successful cases under the care of NATHANIEL J. HOBART, M.D., M.R.C.S.E.; one of the Surgeons to the North Infirmary.

THE absence, or, at least, comparatively speaking, the infrequency of reports on cases of skin-grafting would lead one to suppose that the practice is not as much in vogue as its well-proved and undoubted excellence would warrant. True, it may be said that the practice has become too well established to render reports necessary; but, while admitting such to be the case in particular localities, we think as far as general practice is concerned, we are justified in concluding that skin-grafting is the exception, not the rule. Novelty, with the consequent presumption on the part of the practitioner that he is merely "trying an experiment," doubtless militates against its use; and, perhaps, too, the fact of not keeping pace with the progress of science—whereby innovations are just heard of and shuddered at, but results are unseen and unlooked for—may explain why it is that skin-grafting is not as common as its advocates would wish it to be. A simpler operation can scarce possibly be conceived, and yet, when rightly performed, its advantages cannot be over-estimated. We would, therefore, indulge a hope that the singular success attending the cases that suggested these remarks may be the means of inducing the sceptical, if not to make a trial for themselves, at least to study the matter carefully and seize the first opportunity of watching the grafted skin doing its work.

Addressing ourselves, then, to those unacquainted with the process, or to those who have not as yet resorted to it, it may not be out of place to say a few words about the origin of skin-grafting and the opinions prevalent respecting the subject. To M. Reverdin, of Paris, belongs the credit of having first brought the matter under the notice of the profession, and to Mr. Pollock, of St. George's Hospital, belongs the credit of having introduced and established it in England. M. Reverdin proclaimed his triumph in 1869, and in May, 1870, Mr. Pollock began his famous experiments under the eagle eyes of the most eminent surgeons in London. There happened to be under his care, at the time, a girl suffering from a burn of the thigh, of more than two years' duration, extending from buttock to knee. Mr. Pollock grafted small portions of skin over the raw

surface, and in five months the burn was completely healed. Encouraged by this success, grafting was tried in several other cases, and the results were all alike equally satisfactory. Mr. Pollock's method of procedure was immediately made known, and, in a short time a whole regiment of skin-grafters sprung up. In the pages of the medical journals—more particularly *The Lancet*—the work of the grafters will be found. The work was certainly one remarkably brilliant series of successes, and, without any exaggeration, it is not too much to say that wonders were performed. The practice having been freely tried and found to even more than realise the highest anticipations, men began to travel back from the effect to the cause, and the question was asked whether the skin-graft was an excitator of skin action, or were the cells proliferated. Mr. Bryant declared that the grafts grew, the skin being prolonged from the graft, and that the border also threw out a growth. This he proved in the following ingenious way:—He had a white man under his care suffering from an ulcer on the leg, and on this ulcer he grafted a portion of skin taken from a negro in the hospital. As the ulcer decreased in size, the piece of black skin increased considerably. Another question raised was, whether the margins contributed to the healing process or not. The conclusion arrived at was that they did. The grafted skin in the middle attracts "skin blood" to the whole sore, and thus the healing process is intensified at the margins and centres. To graft is, indeed, a very simple thing; still, in successful grafting, there is some method, and there are some simple conditions, the neglect of which may render the operation a failure. As an illustration let us take the cases under the care of Dr. Hobart. The first patient was a tall, thin, pale, debilitated-looking man, close on sixty years old, of intemperate habits, and a nailer by trade. He had an unhealthy-looking ulcer, with high indurated edges, on the anterior portion of the leg, of more than three years' standing. He had been repeatedly in hospitals with the same disease, and, after a lengthened stay, used to leave with the ulcer almost healed; but after a few months it would "break out again and get worse than ever." There was no occasion for this man to speak his wants; to look at you was to ask you for nourishing food. This he got a liberal share of, and in a few days the improvement was astonishing. The ulcer, which was from five to six inches long, two or three inches wide, and irregular in shape, was next attacked by applying a blister round the edges and repeating it until the induration was sufficiently reduced. Under long-continued poulticing and the use of the resin ointment, a healthy granulating surface was procured; but healing an ulcer of such an extent by ointments seemed a never-ending task, and now that good diet had considerably improved the patient's constitution, and the sore had been brought to a healthy condition, Dr. Hobart had recourse to skin-grafting. With a fine needle he pinched up the skin under the left breast, removed

a minute portion with a lancet, and planted it on the ulcer, about from half to three quarters of an inch from the side of the sore. Three more such pieces were transplanted in a similar manner, then a square of gutta percha tissue, sufficient to cover the ulcer, was rubbed over with sweet oil and applied to the surface, a layer of cotton wadding wrapped round the leg, and a bandage tightly applied. The dressing was not removed till the fourth day, and then, on examination, the proliferation was found to have already commenced. Some more grafts were put on and the dressing re-applied. Every fourth day the ulcer was inspected and the transplanting carried on when occasion required, until finally, about six weeks after the first grafting, it was discovered, on removing the dressing, that the sore had completely healed. The second case was a woman, aged fifty, in a rather delicate state of health, who had been suffering from an ulcer of the leg for two years, and was now also labouring under acquired talipes equinus as a consequence of the primary disease. The sore was situated on the anterior and lower part of the leg, being from three to four inches long and about two and a half inches wide, and there was a disagreeable ichorous discharge coming from the surface. Having recruited the patient's strength, and put the sore in a healthy condition, as in the first case, Dr. Hobart grafted pieces of skin, and in two weeks the ulcer healed. He has since divided the tendo-Achillis, and the case has turned out most satisfactory in every way. Now all the necessary conditions for successful skin-grafting have been mentioned in the brief *résumé* of one of the above cases, and the plan adopted is one we would recommend with the fullest confidence.

First, you must bear in mind that a healthy granulating surface is most essential. If you graft upon an unhealthy surface, it is very likely that the attempt will be a failure. Mr. Pollock proved this. He grafted skin on a child's breast in an unhealthy state, and the graft never proliferated in the least. Secondly, it is most advisable to transplant the smallest pieces possible. For this purpose an ingenious instrument was employed in St. Bartholomew's Hospital, which answered the double end of scissors and forceps together; but the needle and knife are much simpler and far less complicated, and will be found to suit just as well, if not better. Thirdly, the warmth of the part must be maintained. Various methods have been recommended; the gutta percha and cotton wadding is the simplest we are aware of, and we venture to say it is as comfortable, as satisfactory, and as easy an application as any other. These three conditions appear to be the secrets of success; fulfil them, and your object is sure to be attained.

Any student who has walked the wards of an hospital for a few sessions cannot have failed to notice patients with ulcers on the legs "turning up again." Then poultices are once more applied, the edges are blistered, the ulcer is strapped, all the lotions and ointments in the pharmacopœia

are prescribed, and after several months the patient is discharged cured—*pro tem*. It is in the *bond fide* curing of such cases that skin-grafting reigns supreme. Its usefulness in diminishing the tedious healing of burns is certainly of immense advantage, but, no matter how prolonged, the tendency in a burn is towards healing, and one does not experience near such pleasure in aiding Nature to heal quickly as in forcing her to heal when she has no disposition to heal at all. In conclusion we have one word of advice to offer to those who have not as yet tried grafting, and that word is—"GRAFT."

Cases of Removal of Uterine Polypi. By J. MARTIN, F.R.C.S.I., Portlaw.

E. P., aged twenty-six, unmarried, suffered for the last two years from repeated and profuse hæmorrhage, was exsanguined, and reduced to a very low state of strength and health. On examination I found a large polypus occupying the entire of the cavity of the pelvis; so much so that I could not reach the pedicle. Although the hymen was perfect, the textures of the vagina were soft and dilatable. I made an attempt to ecrease the tumour with a small London-made ecraseur. The polypus was globular, and so large that it was with great difficulty that I managed to get the wire—a soft iron one—over it; but having done so, began to tighten it. It had not, however, very long commenced to compress the pedicle when the screw ran, and I had to give up, before it was cut through. I had some difficulty in extricating the vulsellum, and when I had done so there was a considerable cavity left in the body of the polypus. As she was lodging in the house of a nursetender, I made arrangements by which I had the vagina syringed out alternately every three or four hours with solutions of permanganate of potass and carbolic acid, and gave quinine and opium in pill. During the following week it was evident that the polypus was undergoing decomposition, and on the sixth day was expelled, after severe pains like labour pains, *en masse*. The pains were so exactly like labour pains, and the bulk so great, that the nurse was certain that I had made a mistake, and that a child's head was coming to the world. She made a rapid and good recovery under the use of cinchona, cit. fer. cum strych., and other tonics internally, and the use of various astringent lotions.

M. H., aged fifty-three, of fat and heavy conformation, with pendulous abdomen, had four children; has had for four years profuse uterine hæmorrhage. On examination I found a polypus the size of an orange, pear-shaped, having a moderate-sized pedicle protruding from the os uteri. I removed it without difficulty by means of the ecraseur described in Dr. Atthill's book, with the small wheel for working the screw. Here I may say that the ease with which I succeeded in applying the ecraseur was principally owing to the use of the steel wire, instead of the soft

iron one, as, for obvious reasons, the loop was much more readily slipped over the tumour. I took care to carry the wire as far within the os, which was very patulous, as I could. She recovered without any drawback, the hæmorrhage ceased, and she is now, after two years, quite well.

J. M., aged twenty-two, has had profuse hæmorrhage for the last two years; when I was sent for to see her, two months ago, she was at the last extremity of debility, and rather inclined to rave from want of due supply of blood to the brain. She is the daughter of a poor farmer with a large family, and being five miles from me, I did not care to undertake the case; but finding a most enormous polypus blocking up the entire pelvic cavity, I prescribed liq. ergot. at night, and iron during the day, in the hope of getting her strong enough to go up to some of the Dublin hospitals. She had not taken the medicine more than a week when her mother came to me to say that the medicine was *melting* the tumour. Being laid up with a severe attack of bronchitis, I was unable at the time to visit her, but fearing pyæmia, I gave the mother sol. permanganate of potass and of carbolic acid, with a syphon, and instructions to wash out the vagina every four hours. Three days after, though very weak and ill, I made an effort to see her, and by good fortune put the ecraseur in my bag. On examination I found a mass of soft, decomposed structure in the vagina, which came away easily with the aid of the vulsellum, and was found to be about one-third of the tumour. There being now some room, and the girl being so very weak, I determined on removing the remainder, which, after much difficulty, I succeeded in doing, although, from the rigidity of the hymen, and having no assistant, I at first almost despaired of doing so. Here the steel wire again stood my friend. Indeed, as compared with soft iron wire, I look on it alone as being equal to an assistant. The mass removed was dense, fibrous structure, and of such a size that I had to get in the blade of a small midwifery forceps, to act as a vectis, before I could remove it from the vagina. For the first two weeks her recovery was very doubtful. Diarrhœa, restlessness, tenderness of the abdomen, very rapid pulse, constant raving—all formed a group of unfavourable symptoms with which I had to contend. The use, however, of effervescing citrate of ammonia, opium, chalk mixture, followed by cinchona, iron, and quinine, with good nourishment and stimulants, succeeded in pulling her through, and a week ago I saw her sitting downstairs by the kitchen fire, looking well, and for several days quite restored in her mind; but she stated that it was only a few days before that her mind had so far recovered as to remember anything of the operation. I look on her now as convalescent, as she menstruated slightly once, has a good appetite, and looks bright and cheery. I need scarcely say that she has been using the vagina syphon, with astringent lotions, daily during her convalescence, but has now given them up.

SANITARY AND METEOROLOGICAL NOTES,

Compiled by J. W. MOORE, M.D., F.K.Q.C.P.

VITAL STATISTICS

*Of Eight Large Towns in Ireland, for Four Weeks ending Saturday,
February 26th, 1876.*

Towns	Population in 1871	Births Registered	Deaths Registered	DEATHS FROM ZYMOTIC DISEASES							Annual Rate of Mortality per 1,000 Inhabitants
				Small-pox	Measles	Scarlet Fever	Diphtheria	Whooping Cough	Fever	Diarrhoea	
Dublin, -	314,666	819	879	—	13	18	—	50	14	8	36·4
Belfast, -	182,082	571	394	—	1	6	1	8	6	9	28·1
Cork, -	91,965	222	235	—	12	1	—	5	6	—	33·2
Limerick, -	44,209	65	138	—	—	1	—	13	—	3	40·6
Derry, -	30,884	59	47	—	1	3	—	1	—	1	19·8
Waterford, -	30,626	76	66	—	—	—	—	—	2	1	28·0
Galway, -	19,692	20	24	—	—	—	—	—	—	1	15·8
Sligo, -	17,285	36	33	—	—	—	—	—	1	—	24·8

Remarks.

An exceedingly high rate of mortality prevailed in Limerick, Dublin, and Cork. In Belfast, Waterford, and Sligo, also, it was high; but in Derry and Galway it was low. The death-rate per 1,000 of the population annually was—in London 26·5, in Edinburgh 24·8, and in Glasgow 30·0. The registration returns from Limerick during the period were very peculiar, the registered deaths being *more than twice as many* as the registered births. Whooping-cough has been very fatal in Dublin and Limerick; scarlatina has prevailed in Dublin, Belfast, and Derry; and measles in Cork and Dublin. Of 141 zymotic deaths registered in Dublin, 126 occurred within the Municipal Boundary. Changeable weather remarkably augmented the casualties from affections of the respiratory organs. They numbered 261 in Dublin, including 221 from bronchitis and 21 from pneumonia. The corresponding figures for London were 2,018, 1,314, and 421 respectively. The mean temperature was 2° lower in London than it was in Dublin.

METEOROLOGY.

*Abstract of Observations made at Dublin, Lat. 53° 20' N., Long. 6° 15' W.,
for Month of February, 1876.*

Mean Height of Barometer, - - -	29.725 inches.
Maximal Height of Barometer (9 p.m. on 4th), -	30.224 „
Minimal Height of Barometer (9 p.m. on 18th),	29.005 „
Mean Dry-bulb Temperature, - - -	41.7°
Mean Wet-bulb Temperature, - - -	39.7°
Mean Dew-point Temperature, - - -	37.2°
Mean Humidity, - - -	84.2 per cent.
Highest Temperature in Shade (on 17th), -	57.1°
Lowest Temperature in Shade (on 12th), -	26.9°
Lowest Temperature on Grass (Radiation) (on 12th),	22.0°
Mean Amount of Cloud, - - -	57 per cent.
Rainfall (on 23 days), - - -	3.012 inches.
General Direction of Wind, - - -	S.W. and W.

Remarks.

This month was somewhat colder on the whole than January. But the difference in the mean barometrical pressure of the two months was more remarkable than the difference of mean temperature. The barometer mean for February was *half an inch* lower than that for January. On the 4th the area of highest pressure was transferred from France to the W. of Ireland, and a cold polar air-current descended over Western Europe in consequence. Very severe frosts were experienced, even in England, during the next ten days, but on the E. coast of Ireland the weather was milder, although still cold. A depression in the S.W. brought heavy sleet and rain on the 9th and 10th to the Irish coasts, but intense cold held in central England and France—the 8 a.m. temperatures in London, on the 10th to 14th, being 24°, 25°, 23°, and 26°, while those in Paris, on the same days, were 22°, 15°, 14°, and 11°. In Paris this great frost was ended by a rise of temperature, amounting to 26° between 8 a.m. of the 14th and 8 a.m. of the 15th. From this date a S.W. current became established over Ireland, England, and France, while cold easterly winds continued to blow at times in Denmark, Norway, and Scotland. In Dublin rain fell on every day from the 12th. Lightning was seen in the W. on the evening of the 15th. An aurora borealis was observed on the 19th. Sleet fell on the 7th, 9th, 10th, and 13th; hail on the 7th, 8th, 22nd, and 23rd.

PERISCOPE.

Edited by G. F. DUFFEY, M.D., F.K.Q.C.P.

ON AFFECTIONS OF THE EYE IN DIABETES MELLITUS.

In the last number of the *Archiv für Ophthalmologie* (Vol. XXI., Part III.) there is a very elaborate article by Professor Leber, of Göttingen, under the above heading (*Ueber Erkrankungen des Auges bei Diabetes Mellitus*). Cataract and paresis of accommodation have long since been recognised by ophthalmologists as being frequently the result of diabetes, but diseases of the retina and optic nerve have not hitherto been generally admitted as occurring in the same connexion. Many of the very best text-books of ophthalmology either pass over the subject altogether, or else touch on it in such a way as to leave the impression that the authors regard the occurrence as little more than a coincidence. Professor Leber gives a number of cases in point, which have come under his own observation, and quotes a still greater number from the most varied sources. The appearance of retinal hæmorrhages (frequently implicating the vitreous humour) and retinitis apoplectica, with or without partial fatty degeneration of the retina, as a consequence of diabetes, may now be regarded as an ascertained fact. In some cases the retinal affection is directly due to the diabetes, in others to nephritis produced by the latter; and again, in others, to a combination of these two factors. The affections of the optic nerve which may be found, are either atrophy or amblyopia without ophthalmoscopic alterations; the latter sometimes with normal field, sometimes with different kinds of contraction of the field, occasionally even the hemiopic form. In addition to the modes of occurrence enumerated for the retinal affections, another must be admitted for the affections of the optic nerve, namely, through the agency of intracranial disease. Cerebral disease may be caused by diabetes, and that cerebral disease produce disturbances of the optic nerve. Or cerebral disease may produce diabetes, and the latter amblyopia. Or the diabetes and amblyopia may be co-ordinate symptoms of a cerebral affection. The immediate cause of optic atrophy, in those cases where there is no intervening cerebral link, is to be sought for in hæmorrhages situated in the course of the nerves, the chiasma, optic tracts, or in the optic centres. The cases of amblyopia without ophthalmoscopic alterations are to be referred to the same immediate cause; the difference between the two classes of cases being that the latter are in an earlier stage, or that the changes in them are situated further back, and hence the descending atrophy has not yet reached

the eye. In several of the cases which came under Professor Leber's care, the patients' only complaint was of their eye-sight, none of the more usual symptoms of diabetes being present, and an examination of the urine then displayed the fundamental disease. Without implying that in every case of obscure retinal or optic nerve disease latent diabetes will be found, Professor Leber thinks the examination of the urine for sugar and albumen should not be omitted in any case of amblyopia. In future all clinical notices of cases of amblyopia will be incomplete which contain no mention of such investigation. Paralysis of the orbital muscles also depends sometimes upon diabetes, and in all these cases, too, an examination of the urine should be made. The author thinks carbolic acid internally, as recommended by Professor Ebstein, an important means in the treatment of diabetes.

H. R. S.

METHOD OF DIAGNOSING THE DIFFERENT EFFUSIONS INTO THE PLEURA.

GUIDO BACCELLI suggests a method of distinguishing different kinds of fluid in the pleural cavity, by estimating the degree in which they transmit sound. The method by which this is accomplished is as follows:—The patient is placed in a sitting posture, in such a manner that the vibrations produced by the voice should enter the ear of the auscultator directly. The ear which is not used should be carefully closed. The patient is then told to pronounce the word "trente-trois" in a deep base voice. This is very well transmitted if the fluid be thin and serous; not so well if it be thick, containing formed particles; scarcely at all if the fluid be of very great consistence. Homogeneity, absence of formed elements, are conditions favourable to such transmission. If the fluid be of slight consistence, the sound is better heard, as the auscultator proceeds downwards. On the contrary, if the sound is transmitted better above than below, the fluid is very dense, or rather, the fluid mass has divided into two layers, the upper one light, the lower heavy, containing fibro-albuminous flakes.—*Archiv. romaines*, and *Gazette Hebdom.* 1875. No. 50.

K. M. F.

SALICYLIC ACID IN ACUTE RHEUMATISM.

In the *Berliner Klinisch. Wochenschrift* for 3rd and 10th January, there is a paper by Dr. Stricker, Assistant to Professor Traube, on "The Results of the Treatment of Acute Rheumatism by Salicylic Acid." For some months, all (there were fourteen) cases of this disease, with well marked local symptoms, which were admitted to the Clinique, were treated with salicylic acid internally. All these patients were relieved within forty-eight hours and many of them still sooner, not only of their elevated temperature, but also completely of the swelling, redness, and painfulness

of the joints. The author says he is inclined to regard this preparation, quite apart from its antipyretic properties, as the most effectual means yet found for the cure of acute articular rheumatism, and that it may even show itself to be a specific in the disease. In sub-acute cases, Dr. Stricker has not tried the method, but only in those where the objective appearances were well marked. He prefers to begin the treatment in the morning, so that by evening the cure may be so far advanced as to permit of the patient having a quiet night. Pure pulverised salicylic acid is the form in which he has administered the medicine. Doses of from fifteen to thirty grains of it may be given once an hour without disturbing the digestive apparatus in the slightest. The powder is given in capsules, to prevent the slight dryness and burning sensations in the mouth and throat which direct contact produces. The treatment is proceeded with until the affected joints can be moved without pain. The total quantity of the medicine required for this purpose was never more than 450 or less than 150 grains. The earlier the case comes under treatment the more readily does the disease give way before the medicine. The only disagreeable symptoms produced by the treatment were perspiration, tinnitus, and deafness. [The author does not say how long the two latter continued.] Dr. Stricker has been unable to form an opinion with regard to the influence of this method on the secondary inflammations which occur in acute rheumatism—in particular, pericarditis. He reserves his observations on this point for a future communication, when he will have had larger experience.

H. R. S.

THE RAPIDITY OF THE NERVOUS CURRENT IN THE SENSITIVE NERVES
OF MAN.

THE principal researches on this subject have been made by Schelske, who found a rapidity of 29·6 metres per sec., a number which agrees very closely with that found by Helmholtz for the rate of conduction in the motor nerves. The method employed by Schelske consisted in signalling by a movement of his finger the moment at which he perceived an impression made at some part of his body. It was found that the interval between the making of the impression and the giving of the signal was greater when a more distant part than when one near to the brain was impressed, and the difference was supposed to be the time occupied by the current in traversing the difference between the two nerve lengths. M. Bloch finds that this method cannot give true results, for impressions made on parts which are in the habit of receiving and perceiving tactile sensations are signalled much more rapidly than those made on other parts, whether these are nearer to or more distant from the brain. Thus, a much shorter interval elapsed between the impression and the signal when the former was made on the finger than when it was

made on the nose, the forearm, or the foot. Hence, the period for the transformation of a sensation into a volition is not constant, as was supposed by Schelske.

The method of determining the question employed by Bloch does not involve any physiological phenomenon except sensation. He finds that a sensitive impression persists for a certain time, and if during this time another impression be made on another part, the two are felt as if they were made simultaneously. In his experiments the impression is made by a point which projects from the circumference of a wheel rotating with a constant and known velocity. This point touches first one part of the body and then another. The distance of these points from one another is accurately known, and by an easy calculation it can be determined what time elapses between the first and the second impression. The parts touched are separated or approximated until the two impressions are just felt together. When the two index fingers are used this interval is found to be $\frac{1}{32}$ second, which time is consequently the duration of the impression of such a contact on this part. If, instead of the second finger, the point of the nose be touched, it is found that the interval between the two contacts (first on the finger, second on the nose) may be made considerably greater than in the case of the two hands; and if, instead of the second hand, the foot be touched, the interval must be made less in order that the two contacts may be felt synchronously. It is evident that, supposing the time required for the reception of an impression of contact to be the same at all parts of the body (and the author proves that it is so), the difference must be due to the less time required for the transmission to the sensorium of an impression made on the nose than for one made on the hand, and the greater time required for the transmission of one made on the foot; and in this way it is easy to determine the rate of conduction. This, taking a mean of all the experiments, and not considering whether the conduction is in a nerve or in the spinal cord or brain, is 156 metres per second. By a further calculation it is shown that conduction in the cord takes place at the rate of 194 metres, and in the nerves at 132 metres per second. The author shows that his results must be right within .0002 sec.—*Archives de Physiologie*. 1875. P. 588.

J. M. P.

COLOURED LIGHT IN THE TREATMENT OF MANIA.

DR. PONZA, Physician to the Lunatic Asylum at Alessandria, has addressed to the Medico-Psychological Society at Pavia, a very remarkable paper on the "Influence of Coloured Light in the Treatment of Mania." Struck with the statement that the captain of a ship had observed animals fatten remarkably under the influence of violet light, and being informed by Professor Secchi, of the Observatory at Rome, that it is the

violet rays which act chemically on vegetables, he instituted on his patients some experiments, four of which he records. The first is the case of a melancholiac, remarkably taciturn, who seldom ate food of his own accord. After being kept three hours in a room painted red, and with red windows, he was found to be gay and smiling, and even asked for food. Another lunatic, who used to sit all day with his hands placed before his mouth to keep out the "poisoned air," and who refused food so violently that he had to be fed through a tube, was put to sleep in the red-room. Next morning he asked for breakfast, and ate it greedily; in a few days Dr. Ponza expected he would be able to send him home. In a blue-room was placed a violent maniac, who was usually kept in a strait waistcoat; an hour afterwards he was much more tranquil. It is added that Dr. Bongiovanni, the Professor of Clinical Medicine in the University of Pavia, who had come to Alessandria for the purpose of witnessing these experiments, was led through a number of rooms blindfolded, and that as soon as he reached this chamber, guided by a sudden feeling of oppression, he pronounced it to be the blue one. The fourth case is that of a lunatic who was made to sleep in a chamber with violet windows. The next day he requested to be sent home, as he felt cured. His request was complied with, and he has been well ever since. Dr. Ponza feels confident that by this treatment satisfactory results may be obtained in many nervous affections, such as chorea, hysteria, epilepsy, and eclampsia, puerperal or infantile.—*Annales Médico-Psychologiques*.

S. W.

SHORTENING OF THE LIMB IN MORBUS COXÆ.

OWING to M. Ollier's well-known researches upon the growth of bone, M. Viennois, of Lyons, has recently assigned as the two main causes of the shortening, in cases unattended with femoral luxation, general atrophy of the limb from disuse, and arrested development from inflammatory lesions of the cartilage between the shaft and upper epiphysis of the femur. The former cause operates in all forms of coxalgia, and is proportionate to the duration of the disease, the length of the period of immobility of the limb, and the alteration in the general health. It is the only cause of shortening in the arthritic or synovial form of the malady. The entire bony framework of the limb undergoes a diminution in length. Along with the femur the bones of the leg and foot are atrophied, as evidenced by the diminution of the bone in every diameter. The bone is not only shorter, but thinner, and the surrounding tissues are emaciated. The bones of the foot are found more atrophied than those of the leg or femur, because they grow chiefly from the periosteum, in which the atrophic process commences. The shortening, which is the result of arrested development of the juxta-epiphysary cartilage, occurs where the disease originates in femoral osteitis, and is proportionate to the intensity

of the inflammatory process. If the inflammation lead to total destruction of the cartilage, it may produce considerable arrest of development, to the extent of six or seven centimetres. Much, however, depends on the age at which the disease develops itself. Great shortening only occurs in those attacked in early infancy, in whom the growth of the femur is not only arrested at its upper end by the destruction of the juxta-epiphyseal cartilage, but diminished throughout, owing to the long disuse to which the limb is condemned during the process of cure. The usual amount of shortening varies from a half to one inch, either because the cartilage has not been completely destroyed, or because the cartilage has a less active function to fulfil, owing to the disease having manifested itself at a comparatively late period, about the tenth or twelfth year. The thickening and enlargement of the bone in these cases is sufficient evidence of the osteal inflammation. The general atrophy may be successfully combated by electricity, friction, and especially exercise, so soon as the state of the joint will permit, combined with extension of the limb by weights.—*Gaz. Hebdom.*, January, 1876.

E. W. C.

CHLORAL IN PITIRIASIS.

M. MARTINEAU has employed successfully in the treatment of pityriasis capitis, a solution of chloral, the strength recommended being 5 or 6 parts to 100 of water. In severe cases he adds bichloride of mercury to the chloral. In pityriasis versicolor, and tinea decalvans, he has found it as useful as any of the ordinary parasiticides.—*Le Mouvement Médical*.

S. W.

TREATMENT OF PARASITIC SKIN DISEASES BY BORACIC ACID.

THE use of boracic acid as an antiseptic has been known in these countries since Professor Lister made a communication on the subject to the Edinburgh Medico-Chirurgical Society* in July, 1874. From observation of its employment in this manner, Surgeon-Major G. A. Watson, 19th Bengal Lancers (*Indian Medical Gazette*, Oct. 1, 1875), has used it, and with very great success, as an external application in the treatment of the dermatophyta, or diseases of the skin dependent upon a vegetable parasite. These diseases, especially the different forms of tinea, are exceedingly common in India. In that very troublesome form from which many Europeans suffer, and which affects the scrotum and inner sides of the upper part of the thighs, and is attended with such intolerable itching as to render it unpleasant for those who suffer from it to go into society, the external application of a solution of boracic acid acts, he says, like a charm. Three or four applications or even less

* *Edinburgh Med. Jour.* September, 1874.

give effectual and often permanent relief. The form in which Mr. Watson uses the boracic acid is as a simple aqueous solution, of the strength of about 3i of the acid to 3i of water, or about as much as water will take up at ordinary temperatures. The acid is sparingly soluble in cold water, but dissolves much more readily in hot water. It also dissolves in alcohol, and this may be added in greater or less quantity to the watery solution if thought advisable, but the simple watery solution seems to answer every purpose. The parts affected should be well bathed with the solution twice a day, some little friction being used so as to bring it thoroughly in contact with every part of the skin, and it should not be wiped off, but allowed to dry on the part. Mr. Watson suggests that as boracic acid can be taken internally in considerable doses without injurious effects, and appears to pass into the blood and to be eliminated by the kidneys unchanged, it is not unreasonable to infer that it would prove as destructive to the vitality of minute germs that have gained an entrance into the blood (zymetic diseases), as it has been proved to be to those outside the body.

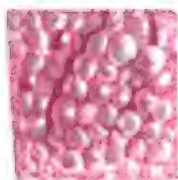
TRANSPPOSITION OF VISCERA.

Two cases of complete transposition of viscera are given by Scheele (*Berlin. Klin. Wochenschr.*; and *Centralblatt*, No. 46, 1875). The first case occurred in a child, four and a half years old, of a healthy family, in whom physical examination of the organs in the chest and abdomen placed the question beyond doubt. The case is for this reason remarkable, inasmuch as the patient suffered from congenital insufficiency of the aortic valves, and stenosis of the aortic orifice. In some hundred instances of transposition of viscera, there have been but nine cases of malformation of the heart, and of these the *foramen ovale* was affected in eight, and the orifice of the pulmonary artery in one. Congenital malformations of the aorta are of the very greatest rarity. The second patient was a weaver, thirty-four years of age. He had drunk heavily in his youth, and presented evidences of cirrhosis of the liver at the time he came under observation. The large spleen which lay in the right side and the notable volume of the liver, which occupied the left side of the stomach, made the case very simple. Both patients were right-handed.*

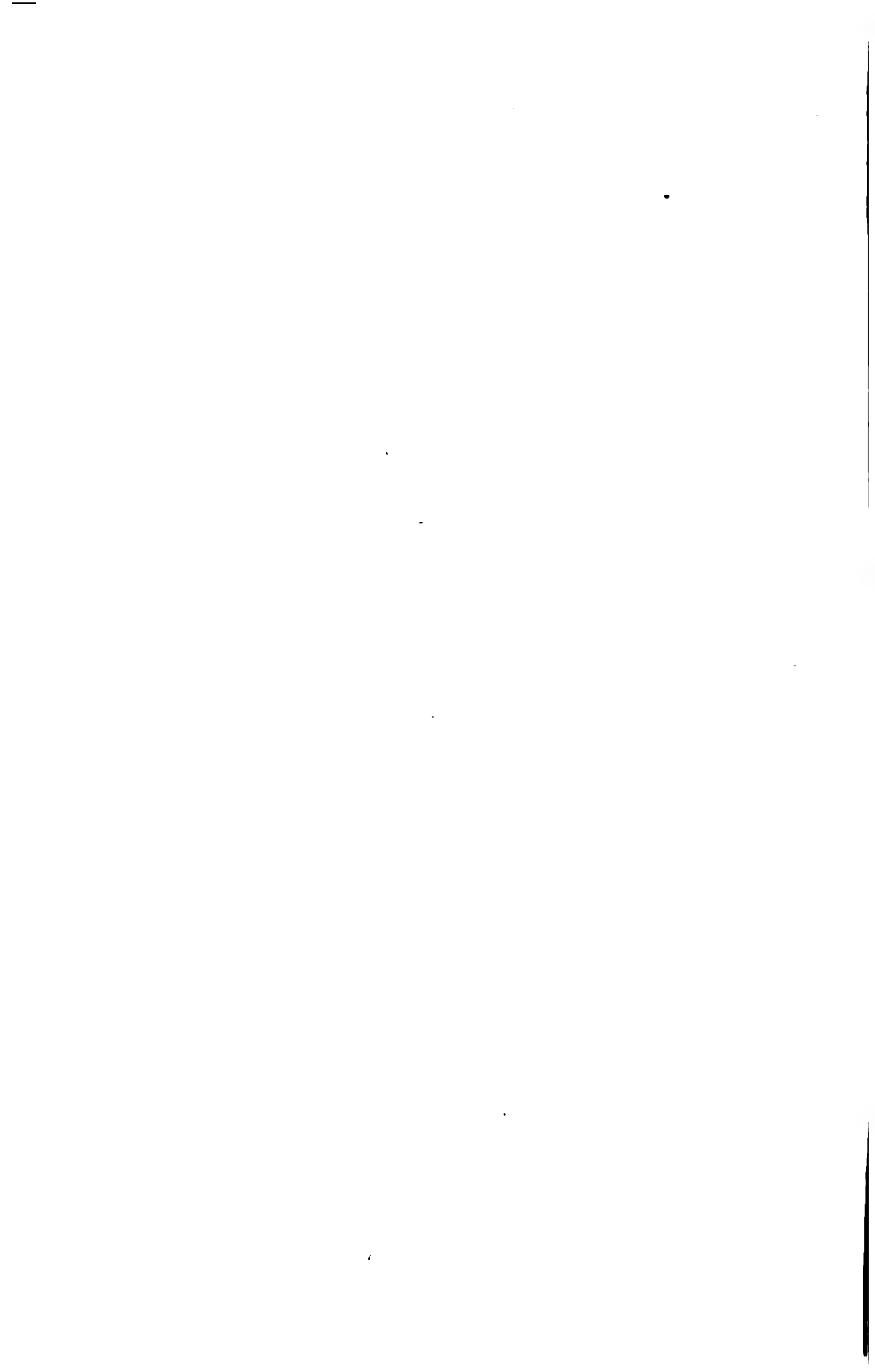
J. M. F.

* A case of complete transposition of the viscera is recorded by Dr. Nixon in the Proceedings of the Pathological Society of Dublin, Vol. V., Pt. II., p. 253; see also *Dubl. Jour. of Med. Sci.*, Vol. LVI., p. 331.—[G. F. D.]





MR THORNLEY STOKER ON VESICULAR DISEASE OF THE TONGUE.



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MAY 1, 1876.

PART I.

ORIGINAL COMMUNICATIONS.

ART. XVIII.—*On some Vesicular Diseases of the Tongue.* By WILLIAM THORNLEY STOKER, M.D.; Fellow of the Royal College of Surgeons in Ireland, and Demonstrator in its School; Surgeon to the Richmond Hospital; formerly Surgeon to the City of Dublin Hospital.

IN the following pages I desire not only to call attention to a rare form of disease of the tongue, first described by Henry Earle, Assistant-Surgeon to St. Bartholomew's Hospital, as far back as the year 1822, but also to record a form of lingual affection which, presenting some of the characters of Earle's disease, has been confounded with it; and, furthermore, to refer to the occasional occurrence on this organ of vesicular eruptions, which depend upon the irritation of other disorders.

In "The Transactions of the Medical and Chirurgical Society of London," for the year I have named, will be found a paper by Mr. Earle "On the Influence of Local Irritation in the Production of Cancer and other Morbid Alterations of Structure," in which, having spoken of the effects of such irritations as those due to disorders of the teeth and stomach in producing a disease of the tongue closely resembling cancer, but, unlike cancer, yielding to simple remedies, he proceeds to describe, in language which I will quote, a case of the affection variously known since his time as

"Earle's Disease," "Atrophic Cancer," and "Vesicular Disease of the Tongue:"—

"Clusters of very minute semi-transparent vesicles pervaded the whole thickness of the tongue, occupying nearly one half, and projected considerably, both above and below that organ. The slightest injury caused these to bleed profusely, and in some cases the clusters were separated by deep clefts, which discharged a foetid, irritating sanies. This disease, which had resisted various plans of treatment, both local and constitutional, gradually yielded to a strict attention to perfect quiet and cleanliness, combined with large doses of hyoscyamus, which was increased to the extent of 3j. of the extract daily."

Such a condition as is here described—that is to say, a mass of vesicular disease *involving the whole thickness of the tongue*, and yet disappearing under simple treatment—I have never seen, but it is described so circumstantially, and has been accepted as a fact so readily by other surgeons, that we are bound to acknowledge its existence. To this disorder, then, the name of Earle's Disease may be applied, and it must be regarded as distinct from the other conditions which I will presently make mention of, and which seem to me to have been confounded with it.

Whether the disease here described is distinctly referable to a local irritation is, I think, a question which, looking at the case with the result of increased observation to guide us, may fairly be asked. There is no doubt that irritation of the tongue from such causes as bad teeth, ulcers, or deranged stomach will produce a herpetic eruption on its surface, but I cannot believe that it could produce a mass of vesicular disease purely secondary and symptomatic, and yet so extensive as to involve the entire thickness of the organ in the manner described.

Mr. Fairlie Clarke, in his admirable work on "The Diseases of the Tongue," has mentioned the appearance of vesicles on its surface, but seems, like Mr. Earle, to regard them as only expressive of some pressure or irritation, either immediate or remote; and like him, also, to consider a remedy to lie in the removal of the primary cause. That this is true of most cases in which vesicles appear on the tongue is beyond any uncertainty, but that there is also an independent vesicular disease, which does not yield to treatment, is, I believe, a fact capable of demonstration. My distinguished predecessor in the Richmond Hospital, the late Professor R. W. Smith, was in the habit of describing in his lectures cases

answering to the appearance and characters described by Earle, and calling them by the name of Earle's Disease, but inasmuch as he taught that they were incurable, and capable only of palliation by lotions containing citric acid and by the administration of hyoscyamus, I conceive that the affection he spoke of was essentially different, save in aspect, for Mr. Earle's cases seem sooner or later to have yielded to treatment, and got well under by the use of simple remedies.

As an illustration of the variety of disease of which I speak, I have selected from the Museum of the Richmond Hospital a drawing of a case of Professor Smith's, which shows admirably the characteristics of the persistent form of the complaint, and on the back of which a note is endorsed, to the effect that when examined, in 1869, the growth, which occasionally swells a little and is painful, is but slightly altered in appearance, and is of the same size as when it was first observed, twenty years previously. Surely, we may conclude that such a case as this, which, having been the subject of skilled treatment, has undergone no essential change in size or constitution after a lapse of twenty years, is an incurable one, and an example of a class which, although occasionally seen and referred to in his lectures by Professor Smith, has not as yet been described clerically, or illustrated in a published form, and is widely separated from a disease gradually yielding to treatment by lotions and medicines of a simple kind. And if any one doubts the fact, and is unconvinced by the history of the case, let him look at the drawing, and say whether he considers a disease so circumscribed, so defined, so independent, and so persistent, is likely to be other than I have said.

I think, therefore, there is reasonable ground for considering that there is a vesicular affection of the tongue which occurs primarily, and not as a consequence of any irritation, and I would propose to distinguish it by the term Primary Vesicular Disease, in contra-distinction to those vesicular, or herpetic, eruptions, which are the result of some irritation of the tongue, and disappear when the exciting cause is removed.

Concerning the appearance of the disease, I can add but little to what I have written, or to the idea—better than words—conveyed by the accompanying illustration. No induration can be detected in the surrounding parts, which are in these rare cases apparently healthy, and the character of the vesicles with pink bases and clear semi-transparent tops, of hemispherical rather than of the usual

acuminate form, is peculiar, and is well seen in the drawing of the enlarged portion of the surface appended to the illustration.

Of its treatment, there is equally little to be said. The use of a weak solution of citric acid as a lotion, and of hyoscyamus to allay any pain and irritability which may arise, are no advances upon the treatment used for the more mild and curable affection described half a century ago, but they are, at least, all that have been found necessary to alleviate symptoms, and, happily, the more extreme procedure of operation is not likely to be called for in a case giving comparatively so little annoyance, and of such an unprogressive character.

Both the disease of Earle and that form which I have last described seem to me quite distinct from a condition which I have made casual mention of—namely, the appearance of vesicles on the tongue as the sequence of some form of irritation or pressure, and also distinct from true herpes, which sometimes attacks the membrane covering this organ, just as it makes its appearance on the skin in other situations. The latter eruption may generally be known by the opacity and yellowish change of colour which occur when the serum of the vesicles becomes puriform.

The causes of the appearance of vesicles on the tongue, the result of irritation, are many, disorder of the stomach being, perhaps, the most remote, but easily accounted for when we remember the continuity of the mucous surfaces, and the sympathetic appearances of the tongue in all gastric complaints. Among the more immediate are the presence of bad teeth and the existence of a tumour or ulcer of either a simple or specific character, the vesicles in these instances being probably, as Mr. Clarke suggests, formed by dilatation of the papillæ, in consequence of passive congestion, the result of pressure.

As exemplifying this condition, I may mention the case of a man admitted into the Richmond Hospital, under my care, in the year 1874, suffering from pronounced and undoubted epithelial cancer of the tongue, which evidently had its origin in a tertiary syphilitic ulcer, which had commenced about a year previously. An eruption of clear vesicles of the usual round shape observed in the tongue occupied the mucous membrane in the immediate vicinity of the ulcerated surface for from one-half to three-quarters of an inch in extent, and persisted, without change or intermission, until the period of the man's death, about five months after his reception into hospital, extending backwards as the disease

progressed, but no increase in the area of the vesiculated surface being perceptible.

It is probable that the term "Atrophic Cancer," as applied to a vesicular disease, has crept into use from the observation of such cases as this, and the circumstance that all conditions of the tongue with this peculiar eruption have been confounded, has caused the term cancer to be improperly applied to Earle's disease.

The conclusions I would wish to establish in this brief memoir are these:—That there are three distinct conditions in which a vesicular disorder of the tongue may be found—one, the curable complaint described by Earle, where, however, the whole thickness of its substance is engaged; the second, the incurable vesicular disease of which I publish an illustration, and for which I have proposed a distinctive name; and, lastly, that well-known state where the vesicles are superficial, and dependent on some disorder producing irritation or congestion.

ART. XIX.—*On an Outbreak of Small-pox, illustrating the Relation between that Disease and Cerebro-Spinal Meningitis.**

By THOMAS WRIGLEY GRIMSHAW, A.M., M.D., Univ. Dubl.;
Physician to Steevens' and Cork-street (Fever) Hospitals.

IN *The Dublin Medical Journal* of July, 1873, I published a "Report on the Small-pox Epidemic of 1871–73, as observed in Cork-street Fever Hospital." In that Report I referred to purpuric, or malignant, cases of small-pox, of which there were 49. I also referred to cases complicated "with cerebro-spinal meningitis, and two at least died from this affection, the cases otherwise not being severe."

In *The London Medical Record* of August the 13th, 1873, a notice of my Report was published, written by Dr. Collie, the well-known authority on zymotic diseases. In that article Dr. Collie remarks as follows:—"Dr. Grimshaw, like one or two other writers, mentions cerebro-spinal meningitis as a complication, and that two cases of small-pox, not otherwise severe, died of this complication. The present writer (Dr. Collie) believes that the cases of small-pox in which cerebro-spinal meningitis is said to have occurred were not cases of small-pox, but true cerebro-spinal

* Read before the Medical Society of the King and Queen's College of Physicians, Wednesday, April 12, 1876. [The discussion on this Paper will appear in our next Number.]

meningitis, accompanied by a purpuric eruption, not easily distinguishable from the eruption which appears in some cases of hæmorrhagic small-pox."

As it was evident Dr. Collie had misunderstood my remarks on this and one or two other points, I wrote an explanatory note to the editor of *The Medical Record*, on September 10th, 1873, in which I made the following statement:—

"There is no doubt whatever that the cases stated by me to have died of cerebro-spinal meningitis were cases complicated by that disease. Neither of the cases were complicated by purpuric spots, but had all the other symptoms of cerebro-spinal meningitis, a disease with which we are, unfortunately, but too familiar in Dublin, and of which I have myself treated many cases of every variety. The purpuric eruption is by no means a constant symptom in acute cerebro-spinal meningitis as observed in Dublin, and the symptoms referable to the spinal cord are generally, though not always, unmistakable, though very variable."

I have made the foregoing quotations as introductory to an account of a very remarkable outbreak of small-pox, which came under my notice during the months of December, 1875, and January, 1876, which illustrates the point raised by Dr. Collie.

CASE I.—On December 22nd, 1875, a man, calling himself Peter M., presented himself at Steevens' Hospital, at 11 a.m., stating he was unable to pass water, and requesting relief. He was admitted to the accident-ward of the hospital, a catheter easily passed, and a not very large quantity of apparently healthy urine drawn off. The man at this time complained much of pain in his back. During the night the patient got worse; he had no vomiting, but became weak, his eyes congested, and at daylight on the following morning a number of purpuric spots were detected over his entire body, but especially over his hips and thighs. He passed water during the night without assistance. On the following morning, at about 10 o'clock, I was called to see him, and found him suffering intense pain in the lower part of his back and in his legs; there was great debility, congestion of his eyes, and the purpuric spots above-mentioned, which were small, numerous, and shotty to the feel. His temperature was 102.3° , which quickly fell below normal as the patient passed into collapse. I believed the case to be one of cerebro-spinal meningitis, specially affecting the membrane of the lower part of the spinal cord. I treated

him accordingly, and ordered considerable quantities of stimulants. He was removed to the fever-ward, where such cases were treated on former occasions. The man was rather heavy, dull, and uncommunicative; it was, however, ascertained that he was aged twenty-two years; that his friends lived near Sallins, in the county of Kildare; that he was on his way home, having arrived from Liverpool on the morning of the 22nd, and finding himself unable to pass water, he applied at Steevens' Hospital. This information was obtained with great difficulty. The patient is said to have stated that he thought some of the men on board the ship he came in from America suffered from the same disease with which he was affected. The man died about 3 o'clock on the 23rd of December. The purpuric spots had increased in number and extent before death, the eyes and eyelids congested and purpuric, the eyeballs being protruded, and the face of a dusky hue. The *post mortem* examination was conducted by Dr. Bookey, pathologist to the hospital. The appearances were as follows:—Surface of the body livid, especially on the back and points exposed to pressure; decomposition appeared to have commenced over the lower portion of the abdomen; there were numbers of the raised purpuric spots already observed during life; the muscles were dark and soft, especially those of the scalp and lumbar region.

All the thoracic and abdominal organs, especially the kidneys, were intensely congested, and the serous membranes studded with purpuric spots. Blood was effused in the neighbourhood of the gall-bladder and along the ureters; ecchymosed purpuric spots were found on the visceral layer of the pericardium and on the lining membrane of the frontal sinuses.

The dura mater covering the hemispheres of the brain was congested; there was some slight lymph exudation following the course of the vessels on the convex surface of the brain. The membranes at the base were healthy, puncta cruenta increased and enlarged, slight sanguineous effusion into the lateral ventricles. A small firm white growth of cartilaginous consistence was found in the anterior cornu of the left lateral ventricle, the tænia semicircularis of the same side was somewhat thickened and opaque. A small sanguineous extravasation was found on the back part of the medulla oblongata. The membranes of the spinal cord were healthy as far down as the lumbar region, where they became congested, the cauda equina was congested and the nerves were slightly glued together by lymph deposit. Dr. Bookey remarked at the

time of the *post mortem* examination that the condition of the cord was such as is sometimes met with in cases of small-pox.

The case was recorded in the hospital books as one of cerebro-spinal meningitis, which title seemed fully justified by the symptoms during life and the *post mortem* appearances.

By subsequent inquiries we ascertained that the patient had left New York by the "Idaho," steamship, on the 9th of December; thus the time occupied by his journey from New York to Dublin was almost exactly that recognised as the length of the period of incubation of small-pox. The disease was not prevalent in Liverpool when the man passed through that port, but was epidemic in New York and Brooklyn at the time the "Idaho" left America.

CASE II.—In the ward to which Peter M. was admitted was a patient convalescent from scarlatina, who was awaiting his discharge, but not being considered free from contagion, remained in the hospital until the 4th of January.

This man, by name Peter R., aged twenty, was a member of the Royal Irish Constabulary force, had been admitted to hospital on the 13th of December, suffering from a mild attack of scarlatina. He was much alarmed at the appearance presented by Peter M. On January 4th, R. was discharged from hospital, and transferred to the Convalescent Hospital at the Constabulary Barrack, in the Phoenix Park. On the morning of his arrival at the barrack he again became ill, and a rash having appeared, he was re-admitted to Steevens' Hospital on January the 8th. It will be observed that a period of between thirteen and fourteen days elapsed from the date of admission of Peter M. to Steevens' Hospital and the onset of the attack in the case of Peter R. The case of Peter R. proved to be one of small-pox, confluent on the face, running the ordinary course. The patient was vaccinated and fairly marked, and the disease, although severe, did not at any time cause serious anxiety. He was discharged on March 9th, his face being pitted by the disease.

A most careful inquiry seemed to exclude the possibility of Peter R. having been in contact with any source of small-pox contagion other than Case I.

CASE III.—A. W., aged nineteen, another Royal Irish Constabulary man, was admitted on January 11th, suffering from a rather severe attack of scarlatina, and was, unfortunately, placed in

the same ward as Patrick R. (Case II.) The patient progressed favourably until January 26th, fourteen days after admission, when he was attacked by modified small-pox of a mild type. He had been successfully vaccinated, and his arm showed a good mark. He was discharged on March 9th, 1876.

CASE IV.—J. G., aged eighteen, a Royal Irish Constabulary man, admitted on January 24th, 1876, suffering from a slight feverish attack; he was placed in a fever-ward at the opposite side of a passage from the ward where Cases I., II., and III. had been treated; he quickly recovered, was up in a few days, and was discharged perfectly well on February 2nd, 1876. He again took ill on February 10th, and was re-admitted on February 14th, suffering from a mild attack of modified small-pox. The patient had a good vaccination mark; he was discharged on March 9th, 1876.

CASE V.—M. W., aged eighteen, a Royal Irish Constabulary man, was attacked on January 10th with a cold, which, not being considered worthy of regular hospital treatment, was sent to the Convalescent Hospital, at the Constabulary Barrack, and was placed (he states) in the same bed which Peter R. (Case II.) had occupied. On February 1st he was found to be affected with small-pox, and was removed to Steevens' Hospital, where he passed through a mild attack of modified small-pox. He had a good vaccination mark.

CASE VI.—Mr. H., a student, attending Steevens' Hospital, saw Case II. during the commencement of the "stage of scabbing" on January 15th, and again up to the 22nd of January. On January 30th he was attacked by febrile symptoms, and passed through a mild attack of modified small-pox. He also was efficiently vaccinated.

CASE VII.—T. S., aged nineteen, a native of Dring, in the county of Longford, employed in a large establishment in Grafton-street, was admitted to Steevens' Hospital, suffering from enteric fever and pneumonia, on November 4th. He was in the ward opposite that occupied by the small-pox cases. He was discharged on January 20th, having been convalescent and up for a considerable time before his discharge. He returned to his home near Dring, and on the fourteenth day after his return home was attacked by modified small-pox of a mild type.

CASE VIII.—A child (a boy) who was in the house at Dring to which T. S. went was attacked with small-pox sixteen days after his first exposure to the infection carried from Dublin to Dring by T. S.

The foregoing narrative is interesting from many points of view:—

1st. How insidious may be the introduction of a contagious zymotic! It is more than probable that if the symptoms in Case I. had been developed during a journey from Dublin to the country, or had first exhibited themselves on his arrival in a remote country district, that the patient would not have been seen by a medical man, and a dangerous outbreak of small-pox might have been the result.

2nd. The cases illustrate the importance of having special wards in all our hospitals for the isolation of doubtful cases and for the separate treatment of contagious zymotics. Thus the origin of Case II. was owing to the failure on my part to distinguish this case of malignant small-pox from cerebro-spinal meningitis. Case III. was placed in the same ward as Case II. by an error on the part of the nurse. Case IV. originated owing to disobedience on the part of the patient, who, when convalescent, communicated, contrary to orders, with the small-pox patients. Case V. appears to have arisen from carelessness at the Constabulary Depot. Case VI. arose from the risk necessarily run by our pupils when obtaining clinical knowledge. Case VII. had an origin similar to Case IV., and Case VIII. clearly arose from carelessness in the country.

3rd. Several of the cases illustrate the period of incubation of small-pox. The first is especially remarkable on this account. There seems to be no possibility of the man having taken small-pox in Liverpool, or of his even having had it developed when he arrived in that port, as inquiries have been kindly made by Dr. Trench, Medical Officer of Health of the Borough, and Dr. Harrison, Medical Officer of the Port of Liverpool. The second case also agrees exactly with the usually recognised period of incubation of the disease.

4th. The most interesting issue raised by a study of the account of this outbreak is—what was the cause of the mistake in diagnosis between malignant small-pox and cerebro-spinal fever of the purpuric variety? I must say that I am at a loss to give an answer to this question, and shall be thankful for any aid in its solution.

I have had very large experience in the study of both diseases, having had unusual opportunities of observing and treating both these terrible forms of disease, but on a careful review of all the symptoms of both diseases, I see no distinctive mark between black small-pox and black meningitis, when fatal within the first twenty-four or forty-eight hours. In the case under consideration it is probable that if the patient had been capable of giving an intelligible account of himself, there might have been a history of the onset of the primary fever of small-pox, but of this we heard nothing. The absence of vomiting proves nothing, as, although generally present in both, it may be absent in either disease. The seat of the pain in the back appears to be the most important point. There can be no question that the pain usually commences at and is most severe in the upper part of the spine in cerebro-spinal meningitis, while it usually commences and is generally confined to the lower part of the spine in small-pox. I have, however, seen cases of meningitis where the pain was most severe in the lumbar region, as in the case of M. The spots certainly have no distinguishing characteristic to guide us. Even the *post mortem* examination did not solve the question, for the conditions met with, while sometimes present in rapidly fatal cases of small-pox, have also been met with in cases of meningitis terminating fatally in a few hours—in fact, cases which killed so swiftly that but little lymphic deposit had time to form. I admit that I have not seen a fatal case of purpuric meningitis where, on *post mortem* examination, the signs of spinal meningitis were confined to the lower portion of the cord only. I need scarcely say that I consider Dr. Collie's suspicions are fully justified by the occurrence of such cases as that of the man M; but it must be remembered that purpuric meningitis and small-pox have not prevailed simultaneously in Dublin. I may here remark that Dr. Stokes' name, "Malignant Purpuric Fever," is as applicable to malignant purpuric small-pox as to malignant purpuric meningitis.

On carefully reviewing my experience of epidemic meningitis and small-pox, I still find myself unable to fix upon any symptom, or group of symptoms, which could be relied upon as a means of diagnosing the rapidly fatal purpuric varieties of these diseases from one another. The excision and microscopic examination of one of the spots is the only suggestion I can make for solving the question, and it is more than probable that this method might prove ineffectual.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

The Anatomy of the Lymphatic System. By E. KLEIN, M.D., F.R.S.
Part II. The Lung. London: Smith, Elder, & Co. 1875.
Pp. 88.

THIS part of Dr. Klein's work, like that which dealt with the serous membranes, is divided into two parts, the first treating of the normal, the second of the pathological conditions.

In the lung of the Guinea-pig a great difference is noticed between the endothelium of the costal and that of the pulmonary pleura. The former consists of ordinary polygonal, flattened, nucleated cells, while the latter presents a different appearance according as the lung is distended or collapsed. In the latter case the cells are not flattened plates, but polyhedral or columnar, their substance is granular and stains with silver nitrate, and their nuclei are spherical. In the distended condition of the lung the cells are stretched so as to cover the greater surface, and resemble ordinary endothelial plates. This change in the form of the pulmonary endothelium is less marked in man or other animals than in the Guinea-pig, probably because its lungs collapse to an unusual extent when the thorax is opened.

The matrix of the pulmonary pleura is extremely thin. It consists of bundles of fine connective tissue fibres, with elastic tissue, scanty in the Guinea-pig, more abundant in the dog, cat, and rabbit. Between the groups of bundles of connective tissue are spaces, varying in shape and size with the arrangement of the bundles. These spaces communicate one with the other, contain each a flattened connective tissue cell, and correspond to the lymph-canalicular system of the other serous membranes described in the first part of the work.

The pulmonary pleura is closely attached to the septa, which separate the superficial alveoli, and to the outer surface of these. In the Guinea-pig, immediately under the connective tissue matrix of the pleura, lies a layer of smooth muscular fibres, which form

bundles arranged in a network with long rhombic meshes. They run in a radiating direction from the apex to the base of the lung, and are most developed on those parts which possess the greatest range of movement. In other animals the muscular fibre cells occur scattered, and do not form a distinct coat as in the Guinea-pig.

The lymphatics of the pulmonary pleura form a network, many branches of which correspond to the grooves between the superficial lobules of the lung. The larger branches are easily recognised by their wavy course and the constrictions which indicate the position of their valves. Their wall is composed of a single layer of elongated endothelial plates, like other lymphatics, and some of the branches are provided with lateral blind saccular dilatations.

This network communicates with the lymphatics of the deeper parts of the lung by narrow branches which have no valves, and whose endothelium is sinuous, like that of lymph capillaries. Some of these branches originate in the tissue forming the septa of the superficial alveoli of the lung, others form an anastomosis between the pleural network and the lymphatics of the lung proper, which accompany the pulmonary vessels.

The pleural, or more properly sub-pleural, network of lymphatics is, in the Guinea-pig, in communication with the spaces between the muscular bundles, which, being lined by an endothelium, represent lymphatic lacunæ or spaces.

The sub-pleural and inter-muscular networks furthermore communicate by stomata with the pleural cavity, which is, therefore, like the other serous cavities, to be looked on as a dilated portion of the lymphatic system.

By the movements of respiration a pumping action is kept up, whereby any matters existing in the pleural cavity are drawn during inspiration into the stomata and inter-muscular network, and forced forwards into the deeper lymphatic vessels during expiration.

In the adventitia around the bronchial tubes are numerous lymphatic vessels which form a network, and are most abundant on that side of the bronchus which lies next the accompanying branch of the pulmonary artery. This network belongs chiefly to the bronchi themselves, and is supplied mainly from their walls. In the mucosa muscularis and parts immediately external to this, are inter-fascicular spaces, which, according to the arrangement of the fibrous bundles, represent either a regular lymph canalicular system, consisting of lacunæ and anastomosing canals in the

mucosa, or, in the looser adventitial tissue, elongated or rhombic spaces, connected by a few short canals. The former are lined by flat branched connective tissue corpuscles, the latter by cell-plates resembling an endothelium. This lymph canalicular system communicates freely with the peri-bronchial lymphatic vessels, and the cells, whether branched or unbranched, are continuous with their endothelium.

Between the columnar epithelial cells of the bronchi are found peculiar bodies, which seem to belong to the connective tissue, and are, in fact, continuous with the branched cells contained in the more superficial spaces of the lymph canalicular system. These are analogous to the pseudo-stomata described in the first part, and by them a communication is effected between the free surface of the bronchi and the peri-bronchial lymphatics.

In the walls of the peri-bronchial lymphatics masses of adenoid tissue are found, which bulge into the lumen of the vessel, so as to appear as if surrounded by a lymph sinus. They are analogous to the masses described as peri-lymphangial follicles in the serous membranes.

Surrounding the arteries and veins, lying in their adventitia, is another network of lymphatic spaces and tubes, the peri-vascular lymphatics. These communicate in places with the peri-bronchial lymphatics. Around the larger trunks they are chiefly regular tubes—around the smaller vessels, for the most part, spaces. Those which accompany the ultimate branches of the pulmonary artery and vein take up the lymphatics of the inter-alveolar septa. In the inter-alveolar tissue, besides the capillaries, connective tissue, and elastic fibres, is a system of branching spaces, lined by flat connective tissue cells, processes from which pass between the epithelial cells of the alveoli, and as pseudo-stomata establish a communication between the cavity of the latter and the rootlets of the peri-vascular lymphatics. In the walls of the superficial alveoli, where, as already mentioned, branches of the sub-pleural lymphatics arise, a lymph canalicular system, lined by flat cells, and communicating with the radicles of the lymphatic vessels, is also seen.

The following is Dr. Klein's summary of his investigations on the lymph paths of the lung:—

“The radicles of the lymphatic system of the lung are distributed over three different parts—(1) the walls of the alveoli; (2) the walls of the bronchi; (3) the pulmonary pleura. The first system is represented by irregular lacunæ and anastomosing canals, being the spaces for the

branched connective tissue corpuscles; it gives origin to lymphatic vessels, which are provided with a special endothelial wall. According to their position, the latter may be regarded, in accordance with the views of previous authors, as superficial and deep lymphatics; the former are situated on the surface of the lung—*sub-pleural lymphatics*—and form a network, the efferent trunks of which run along the pulmonary ligaments towards the root of the lung; the latter remain in the substance of the lung, and accompany the branches of the pulmonary artery and vein—*peri-vascular lymphatics*. One of the chief characters of the latter, especially of those situated around the arteries, is their being replaced in some parts by a system of lymphatic spaces—*i. e.*, larger or smaller spaces between the connective tissue fasciculi, and lined by connective tissue corpuscles, arranged like a true endothelium. Around the larger blood-vessels these lymphatic vessels form a network, the efferent trunks of which run towards the root of the lung.

“The second system of radicles, viz., that situated in the wall of the bronchi, is represented by irregular lacunæ and anastomosing canals in the mucosa; in the more external parts—*i. e.*, in the adventitia, by smaller or larger spaces, owing to the different arrangement of the connective tissue fasciculi; both contain, or, more correctly speaking, are lined by, the connective tissue corpuscles, with this difference, that in the former the connective tissue corpuscles are more like ordinary branched cell-plates, while in the latter they form more a continuous endothelium. The lymphatic vessels originating from these radicles are provided with a special endothelial wall, and form in the adventitia of the bronchi a network—*peri-bronchial lymphatics*. These are in communication with the larger trunks of the peri-vascular lymphatics; the efferent vessels of both are identical.

“The third system of radicles, viz., those in the pulmonary pleura, are also inter-fascicular lacunæ, communicating with one another by a few canals; each lacuna is lined by a connective tissue cell-plate. In the Guinea-pig's lung there is, in addition, a system of oblong lymph spaces, formed by the bundles of unstriped muscular tissue—*inter-muscular lymph spaces*. Both discharge themselves into the sub-pleural lymphatics.

“In the lung of Guinea-pigs and rabbits the wall of the bronchi contains *lymphatic follicles* in connexion with the wall of the peri-bronchial lymphatic vessels.

“The sub-pleural lymphatic vessels stand in a direct open communication with the pleural cavity by means of *stomata*. The radicles of both the peri-vascular and peri-bronchial lymphatics stand in an indirect communication with the alveolar cavities or the surface of the bronchial mucous membrane respectively, by means of *pseudo-stomata*.”

In acute pleuritis, caused by the introduction of septic matter into the pleural cavity, the chief changes consist in germination and proliferation of endothelial cells, most marked about the stomata, which are often plugged by a mass of fibrine.

In cases of longer duration, where the animal has suffered from chronic pyæmia or artificial tuberculosis, the germination about the stomata is still better seen. The costal and mediastinal pleuræ frequently present villous or nodular projections, covered with germinating endothelium.

In the pulmonary pleura the fibrous matrix is greatly thickened, the thickening being probably brought about by the organisation of lymphoid cells, with which, at an earlier stage, the membrane is seen to be infiltrated. The muscular coat is greatly hypertrophied, in order to overcome the obstruction which the circulation of the contents of the lymphatics now experiences. The lungs present the appearances of interstitial pneumonia, and contain nodules or patches, at first greyish and firm, but subsequently becoming cheesy in the centre. Such nodules, examined at an early stage, appear to consist of trabeculæ, enclosing spaces. The trabeculæ are formed either of cords of lymphoid cells, or of tracts of adenoid tissue. They are probably the inter-alveolar lymphatics, filled with lymph corpuscles, which have, in part, originated from proliferation of the endothelial cells, and, in part, have been pumped in from the pleura, or have emigrated from the vessels. In these lymphatics adenoid tissue is formed, in the way described in the first part, by outgrowths from the endothelium (*endo-lymphangial follicular structures*). The spaces enclosed by these trabeculæ are the alveolar cavities. In the earlier stages they contain cells, which, from their arrangement, shape, size, &c., are certainly changed epithelium. At a latter period they are occupied by bodies resembling lymph corpuscles.

In cases of artificial tuberculosis, which are so far advanced that necrotic changes have taken place in the bronchial glands, three kinds of granulations are found in the lung:—

1. Nodules of a more or less well-defined outline, being in connexion with the wall of a bronchiole. These are due to an increase in number and size of the peri-bronchial lymphatic follicles. They do not occur, as supposed by Dr. Sanderson, as the first change in artificial tuberculosis, but only when the disease has made some progress. They do not become cheesy.

2. Cord-like structures, accompanying the branches of the pul-

monary artery and vein. These are masses of adenoid tissue, due to formation of endo-lymphangial and peri-lymphangial cords. The appearance of this peri-vascular adenoid tissue is the earliest change in the process of artificial tuberculosis. The cords do not become cheesy. Certain changes take place in the blood-vessels themselves. The endothelium of the terminal branches of the pulmonary artery germinates so as often to narrow considerably the lumen of the vessel, which is much dilated above the obstruction. An encroachment of the peri-vascular adenoid tissue on the walls of the larger vessels is sometimes seen. The peri-vascular cords extend also into the inter-alveolar tissue, and produce great thickening of the alveolar septa. The capillaries suffer a proliferation of their nuclei, and are in places converted into impervious nucleated cords.

3. Nodular structures of a conical or irregular shape. These occur chiefly near the surface of the lung, and are identical with the nodules and patches already noticed. They consist of trabeculæ formed of lymph corpuscles enclosed by fibres or adenoid tissue. These are directly continuous with the peri-vascular cords last described. The contents of the spaces enclosed by these meshes are of undoubted epithelial origin. Epithelial cells, slightly enlarged and granular, containing a constricted nucleus or two nuclei; considerably enlarged cells with several nuclei, and very large masses of protoplasm with from 12–20 nuclei, the so-called giant cells. These latter seem to originate in two ways—either by growth of a single epithelial cell, or by coalescence of several. These catarrhal changes have a definite relation to the peri-vascular cords. They occur where the latter extend into the inter-alveolar tissue, and gradually become less the further we go from the peri-vascular cord; hence they have ill-defined outlines. The changes extend occasionally to the infundibula and smaller bronchi, causing germination of the epithelium. The vessels are compressed, and these nodules undergo caseation—the process starting from the alveolar contents, and subsequently involving the thickened trabeculæ.

In some cases consolidation of considerable portions of the lung takes place without caseation, the inter-alveolar tissue becoming excessively developed, the epithelial cells disappearing, and the alveoli themselves becoming permeated by the reticulum which forms their walls.

The concluding chapter is on Acute Miliary Tuberculosis in

Man. After citing at length the opinions of Buhl and Hering, who look on the miliary tubercles of acute tuberculosis as due to desquamative pneumonia, Dr. Klein proceeds to state his own views, founded on the examination of seven fatal cases. He finds in some of these that the tubercles correspond to groups of alveoli and infundibula, filled with and distended by a fibrinous material containing granules and small cells. The structure of the alveolar wall is hardly distinguishable, and the capillary vessels are impermeable to injection. These conditions gradually become less marked towards the periphery of the tubercle. At the margin the alveolar epithelium is distinct and granular and at some points detached, and the blood-vessels are permeable.

In other instances, supposed to represent later stages of the morbid growth, the centre of the tubercle only consists of alveoli, filled with fibrinous material; nearer the periphery the alveoli are occupied by spherical or irregular-shaped elements, evidently of epithelial origin, or by one large multi-nuclear mass or giant cell. The inter-alveolar trabeculae are markedly thickened, and contain, among nucleated fibres, small lymphoid corpuscles. Here the fibrinous material which at first occupied the alveoli has disappeared, probably from absorption by the surrounding tissues, and its place is taken by epithelial elements. Finally this change extends to the centre, and then "we get a tubercle which contains, corresponding to almost all the alveoli comprised in the nodule, larger or smaller giant cells, surrounded by retiform tissue." In teased preparations it can be distinctly seen that the giant cells are continuous, by numerous processes, with the retiform tissue.

This reteform tissue is not, as asserted by many writers, true adenoid tissue, but either a network of elongated, clumsy-looking nucleated cells, or a network of fibrillar substance containing here and there a nucleus, or a combination of both conditions.

The giant cells of tubercle have been the subject of much discussion in recent times, and an importance has been assigned to them greater than they deserve. They are, according to Klein, true cells, spherical, oblong or irregular in shape. They arise either from lymphoid cells—*i. e.*, colourless blood corpuscles, probably displaced from blood vessels into the alveolar cavities at an early stage—or from epithelial cells lining the alveolar cavities. They give rise to nucleated cells, which help to increase the retiform tissue, and to cells resembling lymph corpuscles, which lie in

the meshes of the former. "Commencing from the centre of the tubercle, the giant cell, as well as the surrounding tissue, having been converted into a dense fibrillar substance, or, without doing so previously, degenerates, becoming firm, hard, and finally assuming the appearance of a more or less debris-like mass."

This remarkable work is illustrated by six beautifully executed plates, containing twenty-seven figures from drawings by the author.

The Induction of Sleep and Insensibility to Pain by the Safe Self-Administration of Anæsthetics. By J. M. CROMBIE, M.A., M.D. Second edition, pp. 58. London: J. & A. Churchill.

DR. CROMBIE, deeply impressed with the idea that severe pain may be more effectually relieved by the inhalation of anæsthetics than by morphia or other anodynes used internally, has devised an apparatus by which a sufferer can give himself a dose of chloroform sufficient to procure ease or sleep. A cone to cover the face, a bottle containing chloroform, and an elastic ball to be worked by the hand, constitute the essentials of the invention. When the patient has rendered himself sufficiently insensible, the elastic ball will drop from his hand, and all danger, it is claimed, will be thus averted. By this means, Dr. Crombie asserts, "any one can put himself to sleep with greater safety and infinitely more comfort than can be done by another, however skilful." Although we should not be disposed to agree with so strong a statement, there is no doubt that self-administration of anæsthetics, if at all justifiable, would be more safe by employing the author's instrument than by the methods usually adopted. Dr. Crombie, however, says little or nothing about the risk of engendering a habit of using chloroform—a habit which would be more objectionable than that of continually having recourse to chloral, or even morphia. The evil effects of anæsthetics in producing nausea and anorexia are very slightly touched upon, nor is mention made of the particular kinds of pain which would be best relieved by a course of self-administered chloroform. There are some valuable remarks, however, upon the manner in which patients should be anæsthetised before undergoing operation. We quite agree with Dr. Crombie, that insensibility should be produced, as far as possible, under the same conditions as natural sleep. There is no doubt that it requires

a larger quantity of chloroform when anæsthesia is attempted in a crowded operation theatre, where the light, the noise, and the novelty of the scene are all calculated to rouse the excitability of the patient.

A Manual of the Diseases of the Eye. By C. MACNAMARA, F.C.U.; Surgeon to the Westminster Hospital. Third edition. London: J. & A. Churchill, New Burlington-street. 1876.

THE fact of this work having run into a third edition in a comparatively short space of time exemplifies the correctness of our statement respecting the original edition, that we considered it "the best manual on diseases of the eye now existing." The additional chapter on "Congenital Malformation and Diseases of the Eye," although necessarily very brief, is a welcome addition to the work.

Atlas of Skin Diseases. By TILBURY FOX, M.D. Parts IV., V., and VI. London: J. & A. Churchill.

THE twelve plates in these three fasciculi picture thirteen species of the genera lichen, eczema, and impetigo, and the artistic excellence of the drawings is fairly sustained. It is well known that Dr. T. Fox is an admiring disciple of Willan, and all the illustrations of eczema are purposely reproduced from Willan's Atlas, so anxious is the editor of the new Atlas to retain for his master the credit of having made a perfect clinical division of eczema into E simplex, E. rubrum, and E. pustulosum, or impetiginodes.

Fasciculus IV. contains two new plates—viz., lichen ruber and lichen scrofulosorum of Hebra—the former being copied, through the courtesy of Mr. Erasmus Wilson, from a model by Baretta, in the dermatological collection of the College of Surgeons. Plate 24 presents a capital portrait of a boy affected with impetigo contagiosa, a disease which Dr. Fox was the first to discriminate from allied pustular eruptions. It is not uncommon in Dublin, and, in the crusted stage, possesses a characteristic and easily recognised appearance. We shall be surprised if this Atlas does not command a wide circulation outside the limits of the United Kingdom, and no medical library should lose time in procuring it.

Medicinal Plants. By ROBERT BENTLEY, F.L.S.; and HENRY TRIMEN, M.B., F.L.S. Parts IV., V., and VI. London: J. & A. Churchill.

To all who are interested in pharmacology this work will prove a necessity for purposes of reference, and its appearance is opportune as a supplement to Hanbury and Flückiger's "Pharmacographia." In these three parts figures and detailed descriptions are given of the mustard plants (now definitely referred to the genus *Brassica*); flax; rue; lemon; guarana; dorema aucheri, one of the sources of ammoniacum; black hellebore; pareira (*chondrodendron tomentosum*); logwood; koussou (referred to *hagenia abyssinica*); stramonium; belladonna; fig; cocculus indicus; canella; buchu; calabar bean; kino; sandal wood; and hemidesmus.

The plan adopted by the authors, in placing the description of each plate at the end of the letterpress, instead of facing the plate, is very inconvenient for reference.

In the article on *datura stramonium*, we are told that *daturia*, which is generally regarded as identical with *atropia*, is considered by Jobert (*Ann. de Thérap.*, 1863, p. 28) to be three times as powerful a mydriatic as *atropia*, as well as more constant and lasting in its operation on the eye. This observation merits the attention of ophthalmic surgeons.

TREATMENT OF COLLAPSE.

PROFESSOR CROSBY, of the Bellevue Hospital, New York, says that he has much confidence in strong green tea in the treatment of shock, both mental and corporeal. The use of strong green tea was forced on his notice by a patient who refused to take any form of alcohol. He was suffering from shock induced by an amputation performed between the middle and lower third of the thigh. This amputation was secondary to a gun-shot wound, and was what the French call "mediate." The shock was absolutely terrific; the pulse remaining cold and pulseless several hours; failing to quiet his conscience in regard to the use of alcohol, Professor Crosby gave him strong tea freely, and was gratified to find that he did well with it, reaction soon taking place. Professor Crosby adds that, in women after delivery, tea forms a satisfactory substitute for alcohol, and one which will bear a more extended use.—*N. Y. Med. Jour.*, Feb.

PART III.

HALF-YEARLY REPORTS.

REPORT ON NERVOUS AND MENTAL DISEASE.

By RINGROSE ATKINS, M.A., M.D., &c.; Assistant Medical Officer, District Lunatic Asylum, Cork.

As the department of nervous and mental disease is at present occupying more attention, perhaps, than any other branch of medical science, it is not to be wondered at that the recent contributions to its literature, both from home and foreign observers, are varied and numerous; and, consequently, I need hardly say that, on the present occasion, it would be quite impossible to deal with more than a few out of this number; and, therefore, in selecting for notice, I have chosen those which I think may prove of more general interest; and, pursuing the plan adopted in the last Report (October, 1875), I will bring forward the subjects treated of under the different headings there enumerated, commencing with:—

I. CEREBRAL ANATOMY AND PHYSIOLOGY.

Dr. O. Heubner, in his recently published work, *Die Lentische Erkrankung der Hirnarterien*, gives some interesting details as to the distribution of the cerebral vessels. He operated by injecting the several arterial branches of the brain separately with coloured fluids, and observing the results. The principal facts as to the final distribution of the larger vessels in the pia mater are thus summarised:—

The anterior cerebral artery supplies, with its first branch of the second order, the net-work of the pia mater on the under-surface of the first frontal convolution, the trigonum olfactorium, and the olfactory nerves; with its branches given off further on its course, it supplies those of the anterior and lateral surfaces of the first frontal convolution, with its corresponding half of the connecting commissure; by the posterior branches, the superficies of the two central convolutions, and the first parietal convolutions are supplied.

The first branch of the second order of the middle cerebral artery supplies the third frontal convolution; the second supplies the second convolution; the third the parts of the two central and superior parietal convolutions which turn to the convexity of the brain; and the fourth supplies the second and third parietal and part of the three temporal convolutions. The posterior cerebral artery supplies the occipital and part of the temporal convolutions. The island of Reil is nourished by an arterial net-work from the pia mater, which is chiefly derived from small lateral twigs of several branches of the *arteria fossæ Sylvii*. In the cerebellum the regions of the pia mater supplied by single arterial branches are not nearly so sharply defined as in the cerebrum. The small arteries of the net-work of the pia mater inosculate freely with each other, according to Heubner. He has also investigated the arteries of the basal ganglia with results not specially different from those of Duret.—(*Chicago Journal*, July, 1875).

The Functions of the Brain.—In consequence of the difference of opinion amongst physiologists on this subject, and in view of the all-important questions involved in it, the French Biological Society have appointed a commission, consisting of MM. Brown-Séquard, Moreau, Vulpian, and Lepine, to investigate, and, if possible, to decide the question. The following are abstracts of some of the most recent contributions on the subject:—

Dr. Otto Soltman (*Centralbl. f. d. Wissensch.*, No. 14, and *Jahrb. f. Kinderheilk*, Bd. IX.) gives an account of his researches in regard to the functions of the cerebral cortex and ganglia in very young animals, and sums up the results as follows (*Am. Jour. Nerv. and Ment. Dis.*, Jan., 1876):—

1. No muscular movements were produced by the electrical irritation of the cerebral cortex in new-born animals.

* During a discussion, which recently took place, at the Société de Biologie, on a communication by M. Joffroy, "On the disturbances of nutrition observed as a sequel of lesions of the occipital lobes," M. Charcot took occasion to avow himself the declared partisan of the general doctrine of cerebral localisation. There exists, he said, certainly in the encephalon, regions, the lesions of which always bring about with certainty the appearance of the same symptoms. Dr. Brown-Séquard announced himself in complete discord with M. Charcot. He denied that the destruction of certain regions of the encephalon produces the abolition of certain functions, and does not accept the modern theory of localisation or direct action; believing, on the contrary, that the phenomena observed in the diverse maladies of the encephalon are phenomena of irritation, of actions of arrest exercised on distant regions, by regions neighbouring to the foci of irritation. These diverse opinions of M. Charcot and Dr. Brown-Séquard very well illustrate the relative position of the two schools of cerebral physiologists.—*Brit. Med. Journ.*, March 4, 1876.

2. They were first observed in puppies about the tenth day after birth, and then in the following order—first, motions of the opposite anterior extremity, then that of the opposite posterior one, and of the facial (optic) muscles.

3. The circumference of the cortical motor centres is greater in very young animals than in older ones. As the number of the motor centres increases, they become more narrowly defined, and correspond to those fixed by Hitzig.

4. The extirpation of the cortex of the anterior lobe causes no motor disturbance in new-born and ten days old puppies, either at the time or later. The corresponding lobe of the opposite hemisphere seems to act vicariously for the one ablated. The extirpation of the anterior lobe in older animals is accompanied with a paralysis of the muscular sense, the more pronounced the older the animal.

5. The extirpation of the cortex of either one or both anterior lobes produces in new-born animals, neither at the time nor later, any motor disorder. The extirpation of the same in adult dogs is accompanied by bilateral ataxia.

6. The corpus striatum has no motor functions in the new-born.

7. Contraction of the opposite anterior member is produced in new-born puppies by electrical irritation of the fibres of the internal capsule. The exact locality from which is produced this result varies according to the age of the individual; it is sometimes more superficial than at others. It is most certainly produced by irritation of that part of the fibres of the internal capsule which lie between the corpus striatum and optic thalamus, whence they pass out to enter the white substance of the hemispheres. The irritation in no case causes movements of the posterior member or of other muscles.

These results are important as showing that, in the new-born, nervous phenomena are altogether spinal and reflex in their nature, and they throw light on the pathogenesis of convulsions. Soltman refers convulsions in children entirely to the spinal nerves. In affections of the thorax and abdomen, in inflammations, fevers, and the exanthemata, convulsions are common in children; while in adults there only occur rigors, headache, or slight delirium. This lack of development of the functions of the brain in the new-born accounts for the fact that so many brain diseases may be latent without characteristic symptoms at that period.

The following conclusions have been arrived at by M. Bouillaud,

in a recent memoir presented to the Paris Academy of Sciences (*Bulletin Gen. de Therapeutique*, abstracted in *Chicago Journal*, October, 1875):—

1. The cerebrum and cerebellum, together, constitute a double organ, absolutely essential (in a purely physiological, not psychological, sense) for all the acts over which preside the diverse faculties of the spirit or the intelligence.

2. As the cerebellum is the seat of the co-ordinating principle of the movements of progression, and the various motions which appertain to them, so the cerebrum itself, without prejudice to its other functions, is the seat of the co-ordinating centres for the movements necessary in a great number of intellectual acts, and of the acts of speech in particular.

Lepine (*Gazette Médicale de Paris*, abstracted in *Lon. Med. Rec.*), with Rochfontaine and Tridon, has made experiments on the effects of electrical excitation of distinct parts of the brain, on the heart, blood-pressure, and secretion. Stimulation of the post frontal convolution of a curarised dog, with very weak induction shocks, produced a pronounced increase in the blood-pressure in the crural artery (seven centimetres of mercury). A certain time elapses before the increase in pressure occurs. The same result can be obtained by excitation of the præ-frontal convolution, and the corresponding part of the sulcus. If the point of the surface of the brain which, in a non-curarised animal, discharges movements of the opposite foot, be stimulated with very weak currents, the temperature of the foot rises several tenths of a degree; the temperature of the opposite foot rises, but not so high, and that of the rectum remains unchanged. The vessels of the brain and pia mater dilate and bleed more, but whether in consequence of the vaso-dilator influence of the stimulation on the cerebral vessels, in consequence of the increased blood-pressure, is uncertain. No such result is observed after stimulation of the posterior lobes, or of the dura mater. Stimulation of spots which caused increase of the blood-pressure, accelerated at the same time the heart-beats. With intact vagi and very strong currents there is a reduction in the number of heart-beats.

M. Lepine has also made two other communications to the Société de Biologie, on the region of the brain, the excitation of which causes salivary hyper-secretion, and on the action of excitation of the hemispheres on the respiratory movements. Three times out of four he found in the dogs experimented upon that Faradisation of the more anterior portion of the brain had for a result, either to

produce salivation in cases where it had been previously absent, or to increase it when the condition already existed. This point of the brain is directly in contact with the olfactory lobe. Other points in the anterior temporal region also excited the salivary secretion. Excitation of these (the anterior) portions of the hemisphere slowed, and even arrested the movements of respiration, while that of the posterior portions had no effect in the dog, and even accelerated them in the rabbit.

As bearing on the experiments of Hitzig and Ferrier, Dr. Hughlings Jackson is publishing, from time to time, in *The Medical Times and Gazette*, a valuable series of cases of partial convulsions, depending on organic brain disease. The grouping and march of the spasms observed, occurring with localised lesions of the convolutions (tumours, softenings, &c.), as demonstrated by careful *post mortem* examinations, are strongly confirmative of the results obtained by these investigators. Dr. Jackson has also collected, in pamphlet form, many of his papers on this subject, to which he has added a lengthy preface. The clinical observations which he adduces in support of the doctrine of the localisation of movements in the brain—a doctrine which he has held for ten years, and before the experiments of Hitzig and Ferrier—are so varied and intricate, that any abstract which I could introduce here would fail to give an adequate idea of their importance; and I can, therefore, do no more than strongly recommend the work to the careful perusal of those who take an interest in the development of cerebral physiology.

In the last volume of *The West Riding Asylum Reports*, Dr. Crichton Browne contributes a paper "On the Functions of the Optic Thalami," based on a series of cases of "Destroying Lesions" of these ganglia. These cases are seven in number. In the first the destroying lesion (hæmorrhage) was confined to the right optic thalamus, the surrounding parts being scarcely at all interfered with, and hence Dr. Browne considers that the symptoms observed during life may be received as characteristic of a destroying lesion of that part of the encephalon. These symptoms were:—1. Incomplete coma; 2. Paralysis of the limbs on the opposite side of the body, face, and tongue; 3. Some impairment of articulation; 4. Loss of *general sensibility* on the opposite side of the body and face; and 5. Abolition of *reflex excitability* on the opposite side of the body. In the second case the lesion was strictly confined to the right corpus striatum. Here the three first groups of symptoms above mentioned were present, while the fourth and fifth were

absent, there being *no* curtailment of *sensibility*, and *no* interference with *reflex excitability*. Of these various symptoms Dr. Browne considers the last two to be distinctive of a lesion of the optic thalamus, and to be confirmative of the results obtained by the carefully-conducted experiments of Dr. Ferrier on these ganglia; the latter having established the fact that destruction of one of these ganglia is followed by complete anæsthesia of the opposite side of the body. Dr. Browne criticises Dr. Bastian's summary rejection of the hypothesis that ascribes the reception of the impressions of common sensibility to the optic thalami, and says it is a question whether Dr. Broadbent's researches, referred to by Dr. Bastian, really do discredit this hypothesis, pointing out that Dr. Broadbent's able and elaborate investigations appear to indicate anatomical facts which are in striking harmony with the results of Dr. Ferrier's experiments, and with his conclusion that the whole brain is divided into a sensory and motor region, corresponding in their anatomical relations with the optic thalami, and corpora striata, and the sensory and motor tracts. In Dr. Browne's remaining cases, the lesions were not confined to the optic thalamus alone; but in all, where the latter were at all involved, the loss of sensibility and reflex excitability were present. Dr. Browne next refers to the part which lesions of the optic thalami play in alterations of temperature of the palsied parts, and quotes the observations of Upensky (*Virchow's Archives*, 1866), who has arrived at the conclusion that there is a vaso-motor centre in the immediate neighbourhood of the optic thalamus, irritation or paralysis of which would cause anæmia or hyperæmia of the blood-vessels, and consequent fall or rise of temperature of the opposite side of the body. Dr. Browne concludes his paper by a discussion on the way in which lesions of the optic thalami interfere with reflex activity:—"Reasoning from analogy," he says, "we should have inferred that destruction of the optic thalamus, which appears to be equivalent to a section of the spinal cord, severing one-half of it from communication with the highest centres, would be followed by an *increase* of reflex excitability, at least in the half cut off from cerebral intercourse. . . . But the very reverse of this is what we invariably find. The reflex excitability of the cord, instead of being increased, is diminished—instead of being brought up to a pitch of high intensity, it is altogether abolished." He suggests three hypotheses to account for this apparent anomaly, but which, he says, are necessarily speculative. These are:—1. That the optic thalami are not only sensory, but also inhibitory

centres. 2. That there is an intermediate inhibitory centre, placed between the spinal cord and the optic thalamus, which any serious injury of the latter throws into a state of higher activity ; and 3. That impressions which have reached the cord do not habitually at once react on the motor machinery, but are first transmitted upwards to higher centres, whence they are bent backwards on the muscular apparatus. But, whatever explanation may be adopted of the coincident abolition or enfeeblement of sensibility and reflex activity, in paralysed limbs, in destroying lesions of the optic thalami, the fact is, as Dr. Browne says, an important one in its physiological as well as in its pathological relations. In *The American Journal of Nervous and Mental Disease* (formerly *The Chicago Journal*), for January, 1876, Dr. W. A. Hammond discusses the question of "The Brain not being the sole organ of the Mind." After producing proof from comparative anatomy and the results of non-development, that man owes the great mental power which places him so far above all living things to the absolute and relative quantity of grey matter which his brain possesses over the lower animals, he expresses his belief "that, wherever there is grey nerve tissue in action, there there is mind also." He then details a series of experiments, either originated or repeated by himself, to prove that the spinal cord has the power of *perception* and *volition* as well as the brain proper. The brain was removed from a large frog, and when localised spots on the surface of the body were irritated, the animal made purposive movements, either to repel or escape from the source of irritation; and another brainless frog, when placed in water, immediately began to swim—and, when an obstacle was placed in its way, after a few seconds it ceased to do so, and, when the latter was removed, continued to do so again. Vulpian says of these movements that they are due to the excitation of the entire surface of the animal by the water, which provokes the mechanism of swimming, which ceases as soon as the excitation has disappeared, by the removal of the animal from the water. Dr. Hammond, in criticising this explanation, says that if it were true, the animal, while in the water, would surely continue the swimming movements in spite of any obstacle in its way, and adduces an experiment of Onimus in support of this. The latter found that brainless frogs, entirely deprived of their skin, still continued to swim when placed in water, thus showing that excitation of the cutaneous surface is not the true cause of these movements. Dr. Hammond also mentions an experiment of Dr. Paton's, who divided the vertebræ and spinal

cord of a salamander immediately below the bronchial plexus, leaving the anterior extremities in connexion with the brain, while the posterior extremities received nervous influence from the lower part of the cord. Purposive movements followed this division:—"On irritating the integuments of the left side of the abdomen, it raised up its left foot again and again to the part," &c. The animal used its hind legs in locomotion, and no difference could be observed between these movements and those performed before the division of the cord, except that the animal now walked with less power and energy. Thus it was clearly proven that the posterior extremities of the animal were capable of being brought into harmonious action with the anterior, though the former were separated from all nervous connexions with the brain, and, as a consequence, that the spinal cord is a centre for perception and volition. Dr. Hammond draws attention to many of the recorded cases of anencephalous human monsters, who lived for some time after birth, and possessed not only the power of movement, but could also cry, suckle, and swallow, and cites the phenomena of so-called "absence of mind," reverie, somnambulism, catalepsy, trance, &c., as justifying, when taken in connexion with the result of experiment, the following conclusions:—

1. That of the mental faculties, perception and volition are seated in the spinal cord, as well as in the cerebral ganglia.
2. That the cord is not probably capable of originating mental influence independently of sensorial impressions—a condition of the brain also—until it has accumulated facts through the operation of the senses.
3. That the memory is not attributable to the mental influence evolved by the spinal cord; it requires, unlike the brain, a new impression, in order that mental force may be produced.

II. CEREBRO-SPINAL HISTOLOGY AND PATHOLOGY.

In the volume of the *West Riding Asylum Reports* (V.), already mentioned, Mr. H. R. Octavius Sankey describes a new process which he has adopted for preparing fresh brain or nervous tissue for microscopical examination. The portions selected for examination are taken from the organ immediately on its removal from the cranium. From these pieces slices are cut with a large knife, kept constantly wet with spirit by means of a brush fixed on the left ring finger with elastic bands (I have found a gentle stream of water flowing over the knife and section, as it is cut, answer remarkably well).

These slices should be made as thin as possible, but thicknesses up to an eighth of an inch will answer for the subsequent treatment. When cut, the sections are washed in a saucer of water, and the greater portion of the latter poured off, leaving enough to cover them. To this is added an equal quantity of a one per cent. solution of "aniline blue-black," so that the sections are then in a half per cent. solution of the dye, in which they are allowed to remain for about twelve hours, or longer, if necessary. By this time the dye has permeated the two superficial surfaces of the sections, leaving the centre uncoloured. Each slice is now carefully floated on a glass slide, and allowed to dry in a current of air, or, if the sections be very thick, artificial heat may be necessary in the process of desiccation. When this is accomplished, and the sections have become of the consistence of dried cheese, and firmly adherent to the glass slip, the superficial coloured layer and the uncoloured portion below it are removed with a razor, or, better still, with a "plane," which Mr. Sankey has designed for the purpose, consisting of an ordinary carpenter's two-inch skew rabbit plane, to which two slips of iron are adjusted with set screws, which act as guides, the thickness of the inferior coloured layer which is left being regulated by raising or depressing the latter. The preparation thus reduced in thickness is now cleared by placing on it a little "Dammar" or "Canada balsam," the intervention of oil of cloves not being requisite, and covered with a thin glass square when it is ready for examination. I have used this method in several instances since Mr. Sankey's paper was published, and have obtained by it some excellent specimens of nerve cells. The most difficult part of the process lies in paring the dried sections, but this would be, no doubt, lessened by using Mr. Sankey's plane. By this method of preparation the latter has been able to confirm some observations originally made by Obersteiner on the structure of the cerebellum, which have not met with general acceptance, or been hitherto substantiated, and his remarks on these points form the second part of the paper.

In the same volume is a paper by Mr. W. Bevan Lewis, on the "Histology of the Sciatic Nerve in General Paralysis of the Insane." After reviewing the normal structure of a large cerebro-spinal nerve, the author proceeds to detail the morbid appearances observed in the nerve trunks of general paralytics, which he has summed up as follows:—

1. Funiculi greatly diminished in size.

2. A peculiar fasciculate atrophy of nerve tubuli, involving both medullary sheath and axis cylinder.

3. Non-susceptibility of the axis cylinder to normal deep-staining by carmine.

4. Increased vascularisation.

5. Hyperplasia of the intra-funicular connective element.

With these Mr. Lewis compares the changes observed in the simpler and more frequent forms of atrophy, occasioned by senile decay, or by disuse of a limb from accident or deformity. These changes are:—

1. Degeneration of connective tissue.

2. Funiculi greatly lessened in size, and receding from their neurolemmal investments.

3. General diffused atrophy of nerve tubuli.

4. Proliferation of connective tissue within the funiculus, with sclerosis of the arterioles and capillaries.

5. General fatty disintegration.

From this it will be seen that the point which appears to be peculiar to general paralysis is the unequal diffusion of the atrophy throughout the whole contents of the funiculus, a bundle of fibres here and there having taken on the morbid conditions, leaving the surrounding fibres perfectly healthy. This is an important feature, as it shows that the initial element in the process apparently starts *simultaneously* from *numerous* and *distinct* foci, instead of being equably distributed, as in the simpler forms of wasting. Mr. Lewis concludes his paper by discussing the pathological import which these changes possess in the explanation of the sensory and locomotor derangements in general paralysis, and expresses the view that the extensive implication of afferent and efferent fibres, of excito-motor tracts, together with changes in their sensory and motor-spinal cells, cannot but affect, through their intimate relationship, the trophic and vaso-motor centres of this region.

On the Changes in the Brain in Typhoid and Typhus Fevers.—L. Popoff (*Virchow's Arch.* XIII. 421, and *Centralblatt*, No. 36) describes the conditions found in the brains of twelve individuals who died of typhoid. In all there were changes of an acute inflammatory character in the vessels, in the neuroglia, and in the ganglionic cells. In the vessels, the cells in the walls, or the fat and pigment cells applied to them, were in a state of proliferation; in the neuroglia there was division of the nuclei, and in the ganglion cells both active proliferation processes and penetration

of wandering cells. The former manifested themselves in division and increase in number of the nuclei; then in division of the protoplasm, whereby the individual parts either did or did not possess a nucleus. With regard to the occurrence of wandering cells, it is to be remarked that they lay partly around the cells (in the so-called peri-vascular spaces), and partly also within the nerve cells, and by the penetration of such cells division of ganglion cells was often brought about. In the preparation these wandering cells fell out of the ganglionic cells, so that these latter appeared as if perforated. Beyond being in and around the ganglion cells, these wandering cells were arranged in rows around the vessels, and here and there along the nerve fibres, but still preferably on the ganglionic cells. In three patients who died of typhus, Popoff noticed the following changes in the brain:—(1). There is such a collection of wandering cells in the peri-vascular spaces as occurs in abdominal typhus. (2). There is also penetration of wandering cells into the ganglion cells, and division of nuclei in the latter. (3). There is infiltration of the neuroglia with young wandering cells. (4). The proliferation phenomena in the walls of the vessels are more pronounced than in typhoid. Infiltration of fat and pigment in the vascular walls may also be observed. Capillary extravasations are sometimes to be noted. (5). An interesting, but, at the same time, very striking result, is the formation in typhus of small nodules in the substance of the brain. These were found in the cortical substance of the cerebrum, cerebellum, corpus striatum, &c., and often had a rounded form, presenting, under a low power, appearances very similar to miliary tubercle. Like the latter, they were found generally, though not always, next the vessels. With high powers (300 diameters), these nodules were seen to consist chiefly of indifferent, newly-formed elements, not distinguishable from lymph, or white blood corpuscles, but in some parts elements as large as the nuclei of the ganglionic cells entered into their composition. These nodules, from their character and origin, are apparently completely analogous to the nodules described by Wagner as occurring in some parenchymatous organs, such as the liver and kidneys, in typhoid fever. These nodules were observed in two cases out of the three—(Stirling in *Lond. Med. Rec.*)

Pigment Deposits in the Brain from Malaria.—Dr. W. A. Hammond (reprint from *Trans. of American Neurological Society*, 1875) calls attention to the deposition of pigment in the brain resulting from malarial poisoning, occurring either in the form of

emboli, obstructing the smaller vessels and the capillaries, or of thrombi, the pigment being slowly deposited along the inner wall of the vessels, and thus gradually leading to their occlusion, or as a transudation into the peri-vascular tissue. He remarks that it appears that Meckel was the first to notice pigment cells in the blood in connexion with malaria and hypertrophy of the spleen, in which organ they are first separated from the blood, either as cells or amorphous masses, and carried thence to distant parts of the body, being most readily detected in the brain by the dark colour which they give to the cerebral substance, especially the cortical layer, in the vessels of which the pigment seems most disposed to accumulate. The tinge is generally that of chocolate or black-lead, and, unless the quantity be very great, the white tissue remains uncoloured; but when present in excessive amount, the latter turns grey, and the smaller vessels resemble brown streaks. Microscopic examination shows the capillaries to be filled with black granules and scales, which are sometimes uniformly distributed, and at others are collected into groups. The mechanical occlusion of the vessels thus occasioned not unfrequently gives rise to rupture of the small vessels, and the formation of numerous small capillary apoplexies (Frerichs). This condition of the brain gives rise to torpor and apathy of the mental faculties; the general intellectual faculties are degraded, and often complete imbecility is produced. Dr. Hammond details five cases of neurotic symptoms from malaria, in three of which deposits of pigment were observed in the retina with the ophthalmoscope, and in a similar number blood drawn from the spleen was found to contain pigment masses. In all the symptoms were relieved by arsenic. The principal point which Dr. Hammond wishes to call attention to is the splenic origin of the pigmentary deposits in the brain, which, he says, no author has before noticed.

Syphilitic Lesions of the Cerebral Arteries.—M. Rabot (*Gaz. des Hopitaux*, No. 115, 1875) has arrived at the following conclusions:—Tertiary syphilis may act on the arteries as on other organs. It gives rise to the formation of gummata. Thus far the presence of endarteritis need not be admitted, but we should not be as positive in regard to periarteritis. The result of tertiary syphilis on the cerebral arteries is softening, of which the symptoms vary very little from those of softening which has no connexion with this disease.

Morbid Anatomy of Paralysis Agitans.—M. Joffroy has reported

three cases, from the service of M. Charcot, from which he has arrived at the following conclusions (*Annales Med. Psychol.*, Nov., 1875):—

1. In the three cases the spinal cord presented appearances characteristic of senile changes, no other alterations being present.

2. The lesions observed in the three cases, as well as those which have been described by authors as occurring in the medulla and protuberance, were accidental or secondary.

3. There is nothing to show that the anatomical locus of paralysis agitans lies in the medulla and protuberance; on the contrary, it is probable that it will be found in the spinal cord.

Locomotor Ataxy in Cases of Insanity.—M. Rey (*Annales Med. Psychol.*, Sept., 1875) remarks that locomotor ataxy has been rarely studied in connexion with insanity, the association of the two affections being infrequent. He says that general paralysis of the insane is most frequently found in connexion with it; symptoms common to the two diseases may render the diagnosis difficult, but he thinks there is one symptom by which the two may be differentiated—viz., the increased difficulty of co-ordinating the movements of walking when the eyes are closed. This does not occur in simple general paralysis. Rey gives nine cases, three of locomotor ataxy, complicated with general paralysis. In one of these cases, in addition to the ordinary *post mortem* appearances of the latter, there was marked sclerosis of the posterior columns of the spinal cord, and in the lower portion of the latter the commencement of sclerosis of the posterior portion of the lateral columns was perceptible. In these cases M. Rey believes the locomotor ataxy to have preceded the general paralysis. The other six cases presented the disease complicated with mental affection, without general paralysis, characterised by simple weakness of intellect and memory, melancholia, dementia with maniacal attacks, &c. In these cases the ataxy presented its ordinary symptoms, and as the mental state became restored or ameliorated the locomotor ataxy resumed its progressive course.

The Diagnosis of Sclerosis of the Nervous System.—M. Mollière (*Lyon Médicale*) draws attention to some points hitherto very obscure and but little studied relating to organic diseases of the nervous centres. A more perfect knowledge of details may enable the practitioner to combat these formidable affections in time, for, as M. Charcot has judiciously observed, when we first come to diagnose sclerosis the disease is completely established, and all

hope of removing such alterations as exist is almost entirely dissipated. M. Charcot has taken great interest in this question, and has established these two important points, to which M. Mollière calls attention:—1. The development and symptoms of locomotor ataxy in individuals previously affected with double atrophy of the retina; and 2. The frequent development of extensive sclerosis of the nervous system in patients who have previously for many years presented the phenomena of well-marked or abnormal hysteria. M. Mollière brings forward two cases of the latter. In the first, a young woman with strongly-marked hysterical antecedents became affected with hysterical paraplegia. One morning, about two months after her admission to hospital, she was seized with grave general symptoms, and died the same evening, and the necropsy showed sclerosis of the pons Varolii, affecting deeply the subjacent nervous tissue. The medulla and spinal cord were healthy. The second was a typical case of hysterical hemiplegia, who, on further examination, showed retinal affection and muscular atrophy of the affected side, which went on increasing until she was lost sight of.—(*Lond. Med. Rec.*)

In the *Annales Med. Psychol.*, Sept., 1875, M. Hospital describes a case of erotic mania, in which, after death, a patch of softening as large as a nut was found in the right lobe of the cerebellum; and in the *L'Union Médicale*, M. Panas relates two cases of more or less complete loss of co-ordination of the movements of the eyes, where the autopsy disclosed alteration in the cerebellum, especially in the vermis inferior, where there had been meningo-encephalitis, followed by softening and adhesion of the meninges to the cerebellar substance. M. Panas suggests the question as to the connexion of the cerebellum with the co-ordination of the eyes. The experiments of Ferrier, which seemed to indicate this function of that organ, are strongly supported by M. Panas's observations.

In the October number, 1875, of the *Journal of Mental Science*, Dr. Clouston reports two cases of aphasia and one of unilateral chorea occurring in general paralytics. He remarks that the gradual and progressive decay of the nervous centres and steady deterioration of their functions are attended in some cases by symptoms closely imitating many of the neuroses of sensibility and motion, such as neuralgia, amaurosis, locomotor ataxy, glosso-pharyngeal paralysis, hemiplegia, apoplexy, and epilepsy; and it is not uncommon for cases of the disease to be diagnosed as epilepsy

and glosso-pharyngeal paralysis. In the first case—a man—the aphasic symptoms first came on soon after the onset of the disease, when the mental and motor symptoms were very mild, and rapidly disappeared, but in about a fortnight after he had another attack of similar character and duration, after which he became excited and boastful, and his right side became more paralysed than the left. In the second case the aphasia was complete, and occurred after an epileptiform attack in the beginning of the disease, and lasted a few days, the motor paralysis not being in any way unilateral. The case of hemichorea happened in a lady, with slowly advancing and mild symptoms coming on after a temporary paralytic condition of the right side, which had followed unilateral convulsions which had been ushered in by a congestive attack. Dr. Clouston says he has had a woman under his care where the diagnosis was most difficult between chorea and general paralysis. In the same journal he also reports two cases of epilepsy with lesions of the convolutions, in which there was a universal tendency for small apoplexies to occur, both in the membranes and grey matter of the convolutions (I have met with a similar case), and asks the pertinent question why should the small blood-vessels burst in this way, and what was the cause of the blood stasis within the head? remarking that he does not consider that the common mechanical explanation of an impeded return of blood to the brain during a fit is sufficient, for we see the same thing where there have been no fits, but merely acute maniacal attacks.

In *The West Riding Reports*, from which I have already quoted, Dr. Hughlings Jackson discusses the temporary mental disorders occurring after epileptic paroxysms. These he places in four classes or groups:—1. Cases in which eccentric or grotesque acts merely were observed; 2. Cases in which great complexity of action was found blended with the epileptic attacks; 3. Cases of medico-legal interest, but of no great importance as regards criminality; 4. Cases accompanied with such violence as to render the patients amenable to law. These four classes possess one common characteristic—they are automatic—being done unconsciously by an irresponsible agent; hence the term “mental automatism” used. Dr. Jackson thinks that in every case of sudden mental automatism occurring in epileptics, there has been a prior slight and transient paroxysm, although occasionally no signs of this are discoverable. Passing on to the conditions after the paroxysm, there is (1.) loss or defect of consciousness, and (2.)

mental automatism—that is, (1.) loss of control, permitting (2.) increased automatic action. This mental automatism more generally occurs after, but sometimes replaces an epileptic fit. Cases are cited illustrating the several groups mentioned above, and showing that the slighter the fit the more complex the automatism after it. Dr. Jackson concludes by remarking upon the importance of hereditary influence being given its due value in medico-legal inquiries.—(From extract in *Lond. Med. Rec.*)

III.—THERAPEUTICS.

In the same volume are two papers by Drs. Merson and Wallis; the one on “The Influence of Diet in Epilepsy,” the other “Chloral Hydrate in Epileptic Convulsions.” Dr. Merson’s investigations on the influence of diet in epilepsy were suggested by Dr. Hughlings Jackson’s speculations on the morbid alterations in the brain tissue underlying the epileptic condition, which he believes to consist in an abnormal nutritive process producing unstable nervous matter, in which the phosphorus ingredient in the latter is replaced by its chemical congener, nitrogen. Hence Dr. Jackson recommends that the diet of epileptics should contain only a limited amount of nitrogenous principles. Accordingly, to put this to the test, Dr. Merson selected twenty-four chronic epileptics, and placed them on two different kinds of food—one consisting very largely of nitrogenous matter, and the other containing no animal food, but consisting of milk, arrow-root, potatoes, bread, butter, and oatmeal; the exact dietary adopted in each case being as follows:—Nitrogenous.—*Breakfast*: 8 oz. lean meat, beef or mutton, 3 oz. bread, 1 pint of coffee. *Dinner*: 12 oz. lean meat, beef or mutton, 7 oz. bread, varied occasionally with fresh vegetables. *Supper*: 4 oz. bread, 4 oz. cheese, and tea. Farinaceous.—*Breakfast*: 8 oz. bread, $\frac{3}{4}$ oz. butter, 1 pint coffee. *Dinner*: on two days of the week, $1\frac{1}{2}$ pints arrowroot milk, containing 2 oz. arrowroot, 3 oz. bread; on two days, oatmeal porridge, containing 3 oz. oatmeal to each man, with a pint of milk; on remaining three days, 12 oz. potatoes, $1\frac{1}{2}$ oz. butter, 3 oz. bread, and a half pint milk. *Supper*: same as breakfast, except that tea was substituted for coffee. Previous to commencing this dietary, each patient was weighed, and his physical and mental condition noted. Twelve of the patients were then put on nitrogenous diet, and twelve on farinaceous, and kept under observation four weeks; the physical and mental condition, together with the number of epileptic fits

being noted carefully from day to day. At the end of four weeks, the weights were again taken, and those previously on nitrogenous food being changed to farinaceous, and those on farinaceous to nitrogenous. After another four weeks, under similar observation, the weights were again taken, and the patients then allowed to resume their ordinary dietary. Out of the twenty-four patients thus fed, in fourteen there was a decided decrease in the number of the fits during the period of farinaceous diet, being 20·7 during this period as compared with 28·3 during the nitrogenous period. Of the remaining ten, four had the same number of fits under each diet. There are, therefore, only six left in which the advantage is left on the side of the nitrogenous regimen, and, of these, two cannot be fairly regarded as telling against farinaceous diet. Dr. Merson concludes by remarking that on a review of the whole evidence furnished by his observations, and making allowance for all circumstances likely to tell in the opposite direction, there are fair grounds for the conclusion that a farinaceous diet is likely to be more useful in the treatment of epilepsy than a nitrogenous. He hopes to continue these observations, and to record his further experience.

Dr. Wallis's paper is based on a series of cases which had been under treatment in the Durham County and West Riding Asylums, in which chloral had been administered in epileptic and allied convulsions. These cases are 23 in number, comprising 16 of epilepsy, more or less chronic; 4 of general paralysis with epileptiform convulsions; 1 of organic dementia, in which convulsions occurred after hemiplegia; and 1 of senile dementia similarly complicated. In all, the chloral was administered for successions of fits leading to coma, and in several cases to impending death; and with but two exceptions, both confirmed epileptics, the attacks were either almost immediately cut short, or very much lessened in severity, in some the effect of the drug being most marked. The chloral was generally administered per rectum, and in varying doses, the largest at one time being 3i, the average amount being from 30 to 45 grains, repeated at intervals until the fits ceased. Dr. Wallis remarks that after a consideration of these cases, which could be greatly multiplied if space permitted, it must be admitted that chloral hydrate has the power of controlling and modifying the severity of epileptic convulsions. He next deals with the physiological action of chloral, and cites the experiments of Hammarsten, Rajewsky, and Amory, as proving that chloral mixed with blood at ordinary temperatures does not suffer change,

summing up its action as follows:—It produces sleep, muscular relaxation, lessening of the tension of the pulse (after a primary increase), lessening of the number of the respirations, and lowering of the temperature. How it exerts its influence in quelling convulsions—whether it be directly by chemical inter-action between the elements of the chloral, on the one hand, and those of the grey matter of the brain on the other, resulting in the elaboration of a more stable tissue than that previously existing, or indirectly through its action on the arterial system by paralysing the vaso-motor nerves, or finally by its action on the heart itself—is unknown, but whatever be the manner of its action, of its result there can be little doubt. Finally, as regards the dose, for an adult a single dose of $\mathfrak{z}\text{i}$ is quite safe, and much more effectual than $\mathfrak{z}\text{ss}$. doses divided by an interval. It may be repeated in an hour if necessary, but the first dose usually causes the convulsions to cease, and plunges the patient into a profound sleep.

In the *Allgemeine Zeitschrift für Psychiatrie*, Band. XXXII., Heft. 2, Dr. A. H. Van Andel reports his experience of the use of the hypodermic injection of the ergotin in certain cases of acute mania, and advances his reasons for this method of treatment. The cases in which he advocates its employment are those which, after a short period of incubation of a few weeks, during which the most striking symptoms are only a certain degree of restlessness and emotional disturbance, explode, so to speak, in a sudden attack of mania. The physical symptoms here observed, besides some general increase of bodily temperature, are principally those of congestion of the head, reddening of the visage, strengthening of the pulse in the carotids, injection of the conjunctivæ, and contracted pupils, indicating hyperæmia of the cerebral vessels and membranes. In this class of case, Van Andel states that the use of opium and its preparations cannot be too strongly decried; and in private practice, where such patients are more frequently met with than in an asylum, the treatment by prolonged baths is difficult of application. Tartar emetic is one of the few agents which has been employed on rational grounds, but its injurious effects on the digestive organs renders it objectionable. Here it is, then, that the hypodermic administration of ergotin can be so beneficially used; the experiments of Brown-Séquard and Hermanides (see also Dr. Mann's paper, last Report, Oct., 1875) have demonstrated its power of producing contraction of the cerebral vessels and anæmia of the brain; hence its action in acute cerebral hyperæmia.

Dr. Van Andel, following Crichton Browne, first employed the drug in two cases of epileptic mania with good results, and since then he has repeatedly had occasion, in the Zutphen Asylum, of administering it in hyperæmia of the central nervous system. The results usually were diminution of the excitement, the ravings, outcries, and fury gradually ceased, and the patient, although crazed, was at least more manageable than before, and sometimes the injection was followed by refreshing sleep. In only one case, in which its use was very successful in diminishing the severity of the mental symptoms, was the injection followed by small local abscesses; in the other cases the ergotin was either quickly absorbed, or circumscribed swelling appeared, which slowly disappeared, and was slightly painful on pressure.—(Translated in *Chicago Journal*).

In the *Allgemeine Zeitschrift für Psychiatrie*, Band XXXII, Heft. 3 and 4, is an abridged report by Nasse on the treatment of insanity by opium. Nasse dissents from the generally-received opinion that opium in large doses is only useful in melancholia, stating that it is in chronic mania of from four to seven, or more, months' standing, when the maniacal symptoms, with sleeplessness, excitability, emaciation, and anæmia, persist and threaten exhaustion and dementia, but in which there is no organic disease, or deep brain mischief, that we are to look for benefit from opium. During twenty years he has treated 160 cases, 48 males and 112 females, with the following results:—Out of 70 melancholics, 20 males and 50 females, only 6 (females) were cured; whereas, of 76 cases of mania, 25 males and 51 females, 22 were cured, 7 males and 15 females; 14 cases of delusional insanity were also subjected to the treatment without any favourable result. The method generally pursued was to commence with two grains twice a day, and to increase the dose rapidly up to from four to eight grains in the twenty-four hours, and to continue the treatment from two to eight weeks, or longer. If good results were achieved at all, they were generally produced by doses of from four to eight grains in the day. Nasse does not look upon hyperæmia of the brain, organic disease of the heart, or atheroma, as contra-indicating opium, and believes that the beneficial results of its use lie in its sleep-producing qualities; he also ascribes to it a tonic effect on the brain, and an indirect influence on nutrition. The patients to whom the drug was administered generally bore it well; nausea was frequently present; vomiting rare; constipation was only at first produced, later on there being a tendency to diarrhœa. The

frequency of the pulse was generally diminished, and an itching and burning of the skin were common; and, contrary to the views generally held, the weight of the body decreased, rapidly increasing on the completion of the cure.—(Abstracted in *Lond. Med. Rec.*)

The following important papers I regret that want of space prevents me noticing on the present occasion:—

Herbert C. Major, M.D., "The Morbid Histology of the Brain in the Lower Animals"—*West Riding Asylum Reports*, Vol. V. 1875. "Observations on the Brain of the Chacma Baboon"—*Journal of Mental Science*, Jan., 1876.

J. Milner Fothergill, M.D., "Cerebral Hyperæmia"—*West Riding Reports*, Vol. V.

W. W. Ireland, M.D., "Can Unconscious Cerebration be Proved?"—*Journ. Ment. Science*, Oct., 1875.

T. Laycock, M.D., "Automatic and Unconscious Cerebration"—*Journ. Ment. Science*, Jan., 1876.

F. MacCabe, M.D., "Mental Strain and Overwork"—*Journ. Ment. Science*, Jan., 1876.

J. S. Jewell, M.D., "On the Existence of Definite Motor Centres in the Cerebral Cortex"—*Chicago Journ. of Nerv. and Ment. Dis.*, Oct., 1875.

H. M. Bannister, M.D., "Chronic Subacute Neuritis"—*Chicago Journal of Nerv. and Ment. Dis.*, Oct., 1875.

J. Crichton Browne, M.D., "Arachnoid Cysts"—*Journal of Psychological Medicine*, Oct., 1875.

M. le Dr. Fevre, "Des Altérations du Système Cutané dans la Folie"—*Annal. Med. Psychol.*, Jan., 1876.

M. le Dr. Semal, "De la Sensibilité Générale sur les Altérations dans les Affections Mélancholiques"—*Annal. Med. Psychol.*, 1875, &c., &c.

PART IV.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE COLLEGE OF PHYSICIANS.

SAMUEL GORDON, M.B., President.

GEORGE F. DUFFEY, M.D., Honorary Secretary.

Wednesday, April 12, 1876.

DR. GORDON, President, in the Chair.

DR. GRIMSHAW read a paper, entitled :—" An Outbreak of Small-pox, illustrating the Relations between that Disease and Cerebro-spinal Meningitis." It will be found at page 405. [The discussion on this Paper will appear in our next Number.]

Notes of some Epidemics which have recently occurred in the District of Coagh, County Tyrone. By JAMES KING KERR, M.D., M.Ch. ; Medical Officer of the Coagh Dispensary.

WITH the permission of the Medical Society, I should be very glad to lay before it a few brief notes of two or three epidemics which have lately occurred in my district, in hopes of eliciting some remarks from the members which may afford some guidance for the future.

Coagh* is a village of about 600 inhabitants, one-third being mill-workers. It is built on the slope of a high hill, and has two principal streets, crossing each other at right angles. The streets are very wide, the main street being eighty feet in width throughout the greater part of its length. At the town end of the village is a good-sized river, on the banks of which the mills are built. It runs through a valley, surrounded

* The name of the parish of Coagh (that is, the Ecclesiastical name) is Tamlaght, which is said to mean "plague-monument," but on what occasion it was given, or when, I do not know. Old inhabitants have told me that Coagh has always suffered severely when any epidemic has appeared.—See Joyce's "Irish Names of Places." First Series. Fourth Edition. P. 161.

by hills; on the slope of the highest Coagh is situated. A fog from the river not unfrequently envelops the greater part of the village. The house accommodation is rather limited in proportion to the population, and there is consequently a good deal of over-crowding. The people are somewhat improvident and dissipated. Although I do not know that the geology of the district can throw much light on the recurrence of these epidemics, yet I gladly avail myself of the geological knowledge of a friend, who says, in a letter to me:—"Coagh, as you know, stands on the side of a hill, along the base of which flows the Ballinderry River. The village rests on stiff boulder clay, which in its turn rests on tabular trap of the greenstone variety. Passing over the bridge from the village we cross a band (200 yards wide) of new red sandstone—clay, of course, overlying—from which the trap has evidently been eroded; for having ascended the slope, on the side of which is Tamlaght Church, we meet the trap again—not now, however, resting on sandstone, but on chalk (white limestone). A band or escarpment of chalk runs from Springbank to a short distance beyond the Cromlech, thus flanking one side of the basin, or trough, on the other side of which, and about 1,000 yards distant, is Coagh. From the top of the hill above Coagh to the top of the hill above Tamlaght Church—that is, from one side of the trough to the other—here is what we have:—Boulder clay all the way, of course except in the bed of the river, where the rock is exposed. But underlying the clay, we have to the river and a few yards beyond, trap rock, then a band of new red sandstone, then a chalk band, then trap again."

SCARLATINA.

With your permission, I will now relate some of the cases of scarlatina, &c., and then draw attention to the sanitary conditions which have probably intensified each epidemic. The duration of the epidemic of scarlatina was from February 12 to July 26, 1875.

On 11th February I was asked to see Lizzie Mullan, residing in this village. On visiting her I found she was suffering from what appeared to be herpetic tonsillitis. I was told she was a servant in a gentleman's family in Belfast, but that, feeling unwell, she had returned home. A few days afterwards several other members of the family complained of sore throats, and upon examination the tonsils were found greatly congested and enlarged, but not having the herpetic character observed in the first case. Febrile symptoms were very slight, and no rash could be detected. As, however, I felt convinced that these were cases of scarlatina, I called on one of the proprietors of the mill in which these people worked, and requested him not to allow them to enter the mill, nor to mingle with the other workers for some time to come, as I knew if once such an infectious element gained entrance there, it would be an utter impossibility to prevent it spreading over the entire place. Up to this

period we had been quite free from scarlatina, although for a considerable time it had been raging in neighbouring districts, especially in Cookstown, the principal market town of this part of the country, about five miles distant.

On the 18th another member of the family was suddenly seized with vomiting and purging, followed by intense congestion and enlargement of the tonsils, and high fever. I had never before seen such intense congestion of these glands; they were perfectly livid, and so distended that I feared sloughing must ensue. No rash appeared, and in about a week she began to convalesce, the throat affection subsiding without any sloughing having taken place.

Notwithstanding my urgent representation, I found that the members of the family, as soon as they were able to work, were admitted into the mill. This, I afterwards found, was due as much to disbelief in the accuracy of my diagnosis as to unwillingness to deprive these poor people of their accustomed means of livelihood; in short, I was regarded as an alarmist.

On the 1st March I was asked to see Daniel Heron, aged eight years, residing in the next house to that of the Mullans. I found him in bed with an attack of scarlatina, accompanied by a distinct rash. On making inquiries, I learnt that, not believing her next-door neighbours had scarlatina, the boy's mother had been in the habit of going out and in of the Mullans' house daily during the entire time of their illness.

The mill proprietors, being now convinced that scarlatina had broken out amongst the workers, acceded to my request, that the boy's father, who was a turner in the mill, should not be allowed to mingle with the other workers; he was at once sent home, but allowed to take his lathe with him, and to send his work, when finished, into the mill.

I cannot say that this could have had any influence in the further spread of the fever, but no new cases made their appearance (or, at least, I was not informed of them) till the 12th of April, when two cases occurred in another part of the village.

Up to the 7th of May there had been only thirteen cases, and all of a mild type. From this date it swept like a wave over the entire place in a most malignant form, several deaths occurring after illnesses of only from twenty-four to thirty-six hours' duration.

On 8th of May I received a visiting ticket in favour of Charles Mullan, aged eight, residing in a very unhealthy entry. I found him complaining of general malaise, but of nothing in particular; he seemed dull, pulse quick, tongue slightly coated, and skin hot. On examination of the throat a slight diffused redness was detected, but no enlargement of the tonsils. On my visit next morning I found him rapidly sinking, and he died that night, about forty-eight hours from the commencement of his illness. No rash could be detected, but the elbows seemed somewhat redder than natural.

On the morning of the 11th I was knocked up to see Mary M'Intyre, aged eight years, and on my arrival found her in a moribund state. The history given to me was, that on the day previous she had gone to the bog, about a mile distant, with her father's dinner, and whilst there had complained of being unwell. I could not obtain definite information as to whether she made any complaint of her throat, but found that at any rate she had been well dosed with the popular "cure-all," whiskey and sulphur.

During the evening, vomiting and purging set in, and continued far into the night, when she became insensible, and I was sent for. I found her lying on her back, quite unconscious and insensible, cheeks and lips livid, and no pulse could be detected. She died a few hours afterwards, about twenty-six hours from the commencement of her illness. No rash could be detected, and an examination of the throat could not be obtained, but I had no doubt that this, as well as the preceding, was a case of malignant scarlatina, and I accordingly gave directions for the houses to be disinfected, and reported the occurrence to the Sanitary Board.

On the following day (12th) I was sent for to see a family named Quinn, residing about a quarter of a mile from the village. On my arrival I found that one boy, aged fourteen years, had just died, having taken ill the day previous. Another boy, aged twelve, who had been unwell for about six days "with a sore throat," was convalescing, and a girl, aged eighteen, in bed, complaining of sore throat and inability to swallow. No rash could be detected, but on examination the tonsils were found much congested and enlarged, almost meeting across the middle line, and presenting somewhat of the herpetic character, but not so well marked as in Mullan's case. On the following day three other members of the family became unwell—two girls, and a boy aged twelve. The latter was a delicate scrofulous child, covered with the scars of numerous abscesses, and was also deformed from spinal disease (caries), presenting a well-marked pigeon-breast. In this case (the boy) there was a copious rash, but of a dusky hue, and somewhat papular; he sank on the third day, the others recovering somewhat slowly.

In this house the sanitary arrangements were very bad, the room in which all these sick people were lying was very small—about 10 ft. \times 8 ft. In it eight persons were in the habit of sleeping, and it was with the utmost difficulty I could persuade them to remove two, out of the four, patients from it; these were accommodated in the kitchen, the "spare-room" of the house being used for storing potatoes.

On the 17th I was asked to see Joseph Gibson, about twelve, of this village, who had taken ill a short time previously. I found him lying on his side in bed, with his knees drawn up, and his head buried in the clothes; he seemed quite stupid, could not be got to answer questions or

to put out his tongue, and was apparently unconscious, but, on being lifted, struggled to get back to his former position; pulse not much altered, skin cool, and face pale. He had already received his whiskey and sulphur, so that purging set in shortly afterwards. A warm bath and friction with a coarse towel revived him; he became quite conscious, and struggled to get out of his bath. After returning to bed he seemed much better, and directions were given to attend carefully to the state of his extremities, to apply warmth to the feet (and, if necessary, counter-irritants), and cold to the head. On my return next morning he was in a comatose state, and died shortly afterwards. A few papules were detected about the forehead. In my absence he had been again dosed with the sulphur and whiskey mixture, with the view of "striking out the rash."

On the 24th another member of the M'Intyre family, a girl, aged six years, was attacked in a similar manner to her sister:—Severe vomiting and purging (in all these cases, however, the preliminary sulphur and whiskey had been administered); face quite congested, and of a deep purple hue; rapid, almost uncountable, pulse; tongue moist, but brown; slight injection of fauces, great prostration, and death in twenty-four hours, consciousness being retained till a short time previous.

On the 30th two other children of the family were taken ill almost in the same manner, though not quite so severely. One of them, a baby, aged one year, succumbed on the fourth day, but the other, aged four, recovered. In all these cases the body, a few hours after death, became of an intensely livid hue, the lividity beginning at the toes, and extending upwards.

On the 25th I was called hurriedly to see John M'Cann, aged four, who had suddenly become insensible, and was thought to be dying by his father, who came for me. I was at the time attending two other members of the family, who were convalescing from scarlatina. I found him on his mother's knee, perfectly unconscious, and insensible to both pricking and pinching; face quite pallid; and only for a faint fluttering of his pulse he might have been regarded as past the aid of remedies. I at once wrapped his legs in mustard poultices; in about forty minutes slight movement of the legs took place, followed by a gradual return of sensibility, and eventually of consciousness. Directions having been given to keep up the counter-irritation, shifting it from one place to another, I left, promising to return later at night. On my return, two hours afterwards, to my astonishment I found him apparently perfectly well, sitting upon a stool, and eating an egg, which he held in one hand, and his spoon in the other. The father, delighted at the sudden transition from apparent death to apparent health, had laid in a supply of whiskey with which to express his gratitude on my return, and it was with the utmost difficulty I could effect my escape. What I declined

was not suffered to go to loss, as he and his wife were heard by their neighbours quarrelling the greater part of the night, and on my return next morning I found the little fellow dying, having apparently been quite neglected, death taking place after twenty-four hours' illness.

On the 31st I was asked to see Phoebe Hamilton, aged eighteen years. She complained of general lassitude, pain in the head and back, had no sore throat, and there was no rash; tongue moist, but coated, and pulse slightly quickened; there was also some thirst. As typhoid fever had by this time made its appearance in the place, I concluded this was a case of it. She continued much in the same condition for about five days, but on the sixth profuse diarrhœa, accompanied by hæmaturia, set in; pulse rose to about 140; delirium followed; and death took place on the eighth day. A day or two after the commencement of her illness a younger sister was attacked by scarlatina, which plainly declared itself by a well-marked rash. They lay in the same room, but in different beds.

On 5th June I received a visiting line in favour of Annie Quinn, aged eighteen, of Drumenny (about two miles distant), who had taken ill the day previous. I found her suffering from a severe attack of scarlatina; rash well marked, but on front of legs was papular, and of a dusky hue; face greatly congested, especially over malar, where it was of a dark purple colour: tongue moist, but somewhat brown; throat but slightly affected, and pulse about 130. She became gradually more prostrate, and sank apparently from pure debility, retaining consciousness almost to the end. Happening to be in the same neighbourhood two days afterwards, I heard that her sister, aged sixteen, had that morning been attacked in a similar manner, but that, owing to the funeral arrangements, no one had had time to go for me. I at once drove to the place, and found the girl in a most critical state, the dusky livid complexion and rapid weak pulse plainly indicating that she was fast following in the wake of her sister. The mother, distracted by the loss of one fine girl, and the too-evident prospect of a like fate for a second, was almost a maniac, rushing about the house shrieking, and wringing her hands, lamenting the loss of her daughter, and the next moment seizing the sick girl in her arms, exclaiming she was losing her too. The sight was a most pitiable one.

I at once saw my way to carrying into operation what I had long been anxious to attempt, but had never previously been able to accomplish—the experiment of a wet pack. It was evident to the mother that her child was sinking rapidly. I told her there was a possibility of saving the girl's life, if she would allow me to wrap her in a wet blanket. She at once said I might do anything I liked, but she knew it would be useless. Calling an elder sister to my aid, I at once had a blanket well wetted with water, and the girl wrapped in it, heaping on the top as many clothes as we could get. I remained with her for nearly two

hours, giving her, at short intervals, beaten-up eggs, whiskey, and milk. On leaving, I directed this mode of treatment to be kept up for another hour.

On my visit next morning the girl was evidently better, but for about six weeks she remained in a low, prostrate state, quite conscious, and able to take nourishment, but so weak and emaciated that it was with great difficulty she could be moved in bed. No special lesion could be detected, the system seemed simply to have been rendered so prostrate by the intensity of the fever poison that it was with great difficulty it could rally. At the end of this time she began to improve, and is now quite well.

On the 30th June I was asked to see a little girl named Benigan, aged ten years, living about half a mile distant from the last place. The messenger urged me to hurry, as he was afraid the child would be dead before I could arrive. Such proved to have actually occurred. It had taken unwell the previous day, but its parents, not thinking the matter serious, took no steps to procure medical aid till they found it dying. Death in this case had taken place in about thirty-six hours' illness. I found that another child, a girl aged eight years, had been attacked that morning. She was in a very excited state, more resembling one having hysteria, but her extremely rapid weak pulse and livid face indicated a malignant type of disease. Encouraged by my success in the former case, I determined again to resort to the wet pack. The parents, who had heard of its previous successful application, were quite as willing as myself to have it tried. In this case, also, the result was satisfactory—the child, after a somewhat lengthened illness, though not nearly so protracted as the other, recovering perfectly.

On the 22nd July I was called to see Margaret Cook, of Coagh, aged eight years, who had taken ill the previous day. I found her in bed; face flushed; pulse quick; skin hot, and tongue moist, but towards the back covered with a brown coating, rash well marked, especially on the front parts of the legs, where it was papular; there was also a good deal of throat affection. Not looking upon this as a malignant case, as it did not present the more aggravated characters observed in other instances, and especially as for some time the malign type seemed to have given place to a mild one, I did not then resort to the wet pack; but on my visit next morning, finding her much worse and almost comatose, I had her wrapped in a sheet dipped in mustard water. She never rallied, but died the same night.

In this epidemic, which commenced on Feb. 11, and ended July 26th, 1875, I had altogether about 100 cases, death occurring in sixteen instances.

I have no doubt the fever was much more extensive than even these figures would indicate, as in many families the fact of its existence was

concealed, from the fear lest, if it were known, it might injure their business. I have reason to believe that it was owing to its concealment by the family of a baker that at one period it spread so rapidly.

TYPHOID FEVER.

In the month of May typhoid fever made its appearance in the village, thirteen cases occurring almost simultaneously. These presented no unusual features, except that there was a great tendency to lung complications. One case, that of a policeman aged twenty-six, was complicated by congestion of both lungs, hæmoptysis, and hæmorrhage from the bowels, his temperature for several nights running as high as 108°; yet, notwithstanding this, after an illness of eight weeks, he began to convalesce, and made a rapid recovery. He is now on active duty, and in excellent health.

ERYSIPELAS.

On 6th of July I was asked to see Mrs. G., the wife of a gentleman residing in the neighbourhood. She had been in her usual good health until the previous evening, when rigors suddenly set in, followed by great heat of skin and a feeling of general soreness.

On my arrival I found her in bed; face greatly flushed; skin hot; tongue coated, but moist; temperature 102·5°; and pulse 98. There was no sore throat, but a feeling of stiffness in the neck. Next morning I found her face greatly swollen and puffy, and it was now quite plain she was suffering from an attack of erysipelas. The inflammation gradually extended upwards to the vertex and downwards to the neck and back of the ears, the face becoming enormously distended, bullæ forming, and bursting over the malar bones. On the 11th she began to improve, the inflammation having somewhat subsided, and she seemed progressing favourably, but unfortunately next day was "the 12th," and the Orangemen from different parts of the country assembled in a field close by, attended by drums and fifes. On paying my usual visit that evening, she complained of having been greatly disturbed by the drumming, and did not seem so well; that night she had no rest, and I found her the next morning greatly prostrated and delirious. She remained in a low excited condition for several days unable to obtain sleep, though large doses of chloral were administered; but on the 16th amendment set in, and she made a good recovery.

On the 7th July a message was left for me to see Mr. D., aged fifty-seven, a large farmer residing about four miles from Coagh. I found him in bed complaining of great internal heat and a feeling of distension in the epigastric region. I was greatly struck by his sunken aspect and his jaundiced skin and eyes. On closely questioning as to the exact date of his illness, I elicited from him with great difficulty the fact that he

had for fourteen days past had a wound on the front part of his leg: this he described as "a mere nothing," a "pinscratch" which he had got by striking his leg against a stick and had afterwards irritated by riding a long distance upon horseback. He had "been keeping down the inflammation," as he said, by large doses of salts, and seemed greatly pleased at the fact that he had well purged himself and kept himself low. He was exceedingly unwilling to let me see this wound, "as it could have nothing to do with his internal complaint," and was anxious that I should confine myself solely to this latter, seeming to think he was quite able to manage the other himself. I insisted upon seeing it, and found a small irregular unhealthy wound over the middle of the front of the tibia, the leg enormously distended and infiltrated, and bullæ forming on the dorsum of the foot; the liver was somewhat enlarged, and the base of the right lung was found to be considerably congested; his skin and eyes were of a deep yellow hue; urine saffron colour; temperature 103.5°; and pulse 110, but weak. It was evident I had to do with a case of blood poisoning. It was with great difficulty I could persuade my patient that his case was very serious; he, however, acquiesced in the advisability of having his affairs arranged, but seemed to think rather lightly of his condition. He was a man of very large build, weighing about fourteen stone, and but little accustomed to illness. On the morning of the fifth day following he died, retaining consciousness to the last, and it was only about an hour previous to his death that he became convinced of the impossibility of his recovery. There were no well-marked rigors in his case.

Whilst attending to Mr. D., I was asked by a neighbouring farmer to visit his wife. "She had been unwell for some time with a swelling in her leg," but was at this time unable to pass water. I found the abdomen greatly distended, no urine having been passed for about thirty-six hours. I drew off about two quarts of high-coloured fluid. I had attended to this at once, as the woman was suffering great pain, but I now found her right thigh and leg enormously swollen and of a brawny hardness. Several bullæ had burst at the inner and upper part of the thigh, and were now discharging purulent matter. Several others of a livid colour were forming on the dorsum of the foot. There was no history as to any local injury in the case; her leg had commenced to swell about a fortnight previously, but she could not account for it in any way.

Large abscesses formed in different parts of the thigh, and notwithstanding openings and counter-openings, antiseptics and the insertion of a drainage tube, the matter burrowed over almost the entire surface of the thigh and part of the leg until the skin seemed literally dissected from the parts beneath.

By means of large doses of quinine and the muriate tincture of iron,

with stimulants in large quantities, life was maintained for about six weeks, when she sank, apparently from pure exhaustion, no complication being detected.

From the beginning of July until that of August, erysipelas in various forms, from the simple cutaneous to the diffuse cellular, prevailed extensively, the form known as whitlow being extensively rife.

Let me now say a few words upon the sanitary condition of Coagh, which, indeed, appears to have been entirely neglected, and which is likely to continue so unless some more powerful *vis à tergo* be applied to the sanitary authorities. The streets are wide and roomy, but no attention has been paid to sewerage. Many of the houses, built to accommodate the increasing mill population, have been erected as cheaply as possible, with no regard to site or drainage, and in some instances with no mere accommodation. The channels for carrying off the surface water have been in some parts filled up, so that the surface of the street being merely level, the water flows over the street instead of occupying the channels.

Only one covered sewer exists, and this consists of earthen pipes of about ten inches in diameter, quite unsuited for the purpose. It runs from one of the cross streets, through the main street to the river. Less than a yard distant from this sewer is one of the three pumps from which the inhabitants obtain their water supply. Circumstances having led me to suspect the condition of the water in the wells, I examined and found that in two instances a communication existed between these wells and the water channels; but although I reported this to the Sanitary Board early in 1875, no steps were taken beyond admonishing the contractor to keep his channels clear. In May I made further remonstrances as to the state of the wells, and the result I give in the words of my report to the Registrar-General on June 30, 1875:—"A committee, to meet on the following Tuesday in Coagh, was at once called. All the members attended, and on the suggestion of the Chairman of the Board, it was decided not only to clean out and put in proper working condition the existing wells, but, in addition, to re-open a well of very pure water which had for several years been closed owing to its inconvenient situation. In the beginning of the following week one of the wells was opened, and my suspicions were fully justified. In the lower ten or twelve feet of this well the water was of the consistence and colour of a strong solution of tar, and the odour so offensive that the people in the adjacent houses were obliged to close their windows whilst it flowed past. A few days afterwards (heavy rain having fallen) the fluid contents of the sewer, which is in close proximity, were seen flowing in a regular stream through the sides of the well. Notwithstanding my repeated remonstrances, this well was covered over and put in working

condition, and is now in general use, no steps having been taken to remedy the evil, except leaving open for a few yards that part of the sewer close to the well which had previously been blocked up."

I was absent for my holidays during the month of August, and on my return I found the water of this well in a most unsatisfactory condition, offensive both to sight and smell, resembling diluted ink in colour, and exhaling sulphuretted hydrogen. I despatched a bottle of it to the Board, who agreed at last to have the well closed. A fortnight afterwards the new pump was completed, and has since provided an ample pure supply of water. The other pump remains *in statu quo*.

So much for the sanitary condition of the village. The Society will form its own judgment as to how far it may have originated or intensified the epidemics which have prevailed. Upon the whole, I could find little or no peculiarity of constitution in the patients to account for the intensity of the attacks and their rapidly fatal termination.

Treatment.—I shall not detain the Society long on this subject, but having had extensive experience in scarlatina, and having given a fair trial to the usual remedies, I may state that I am disposed to place my greatest reliance upon the "wet pack" and the chlorine mixture (Watson). I am unable to state the exact temperature of the water I used, but my plan was as follows:—I procured water about lukewarm, dipped the sheet or blanket in it until thoroughly saturated, then shook them until they were cooled, and wrapped the patient in them, covering them well with bed-clothes.

The chlorine mixture seemed very effective in bad cases, speedily modifying the graver symptoms, and affecting beneficially the state of the throat.

TYPHOID FEVER IN RED-ROW.

The last epidemic I have to bring under your notice occurred this year in a district of my dispensary, about three miles from Coagh, and in the parish of Ardrea.

Since the middle of January of this year (1876) up to the beginning of March, thirty-four cases of fever have occurred—all but one in the same row of small houses called Red-row, and the exceptional one doubtless contracted the disease from dining in one of the houses, which, as she was a mill-worker, saved her a long walk home. Indeed, I may say that very nearly (if not quite) every inhabitant of the row underwent the fever. The greater number, of course, were children or young persons, but there were some adults, and, as a rule, they had the fever more severely. In a few cases the attack was cut short by diaphoretics, but it generally ran its course in from ten to fifteen days, though in one or two cases it was much more prolonged. The attack generally commenced suddenly by chills or rigors, followed by heat and moderate

sweating. In some cases there was diarrhoea, but, although the appetite was utterly extinguished, I do not think that there was either nausea or vomiting. The poor girl who died suffered comparatively little, and exhibited few symptoms but those of ordinary typhoid fever. Her tongue was moist and loaded; appetite quite lost; and the bowels, which at first were too free, became afterwards constipated. There was no great thirst; the pulse was rarely above 100, and the thermometer was 98°; the skin was never very hot. She was generally collected, and answered questions correctly, and only occasionally she wandered a little. Thus she lingered on until the twelfth day, when she died.

The only other fatal case was in a man, aged forty, whose habits were not as moderate as they might have been, and whose wife and five children had the disease slightly before he was attacked. In him the fever was unusually severe and prolonged. The skin was burning hot; face flushed; eyes injected; pulse ranged from 120 to 140; tongue dry and brown; no appetite, but much thirst. The bowels were at first too free, but afterwards requiring medicine.

At times he was delirious, but never violent; at other times he lay in a stupor, from which he could be roused. He was very deaf. Thus he went on for twenty-one days, when there seemed some critical symptoms, but these disappeared, with no remission of the fever. His stomach was never sick, and he took plenty of wine and fluid nourishment. After this time there were signs of typhoid pneumonia, and a bed-sore formed on the sacrum. He died on the thirty-eighth day of his illness.

So much for the fever itself; now a word or two as to the locality, which was of such limited extent that the fever would rather deserve the designation of endemic than epidemic, had not similar cases occurred in other parts of the district.

Red-row, as its name would indicate, consists of a row of red stone houses, built for the accommodation of the mill-workers. There are thirty-nine two-storied tenements, each with a frontage of ten feet, and no back yards, so that the rooms are very small. The row is built on the banks of the mill-race, which is diverted from the Ardtrea river and separated from it by another mill-race and the banks between. The row runs east and west, or nearly so, and both in front and reare it is overtopped by hills, and the eastern end of the little gully is blocked up by the mills, so that the ventilation is very imperfect. Both mill-races are small, and one intermittent, stopping when the mills cease working, and this is the one that runs in front of the houses about nine yards distant, joining the river twenty or thirty yards beyond the houses and the well which supplies them with water when they do not take it from the mill-race. Along the edge of the race, facing the houses, are a series of about four or six privies, so placed that all discharges fall at once into this intermitting stream. The row of houses is 180 yards in length, and

nine yards beyond this is the well, which is just seven yards from the mill-race, and sunk far below its level. Analysis of the water shows no great variation from the proper constituents, except the unusual amount of free ammonia, "indicating admixture with sewage matter."

Between the houses and the mill-race runs a wall with openings in it, and on the narrow space between it and the mill-race all the refuse and manure of the houses is thrown. Of the thirty-nine houses, only ten are inhabited at present.

So much for the locality. In the effluvium from the manure-heaps inside the wall in front of the houses, and less than five yards from them, and in the deteriorated water of the mill-race, percolating through the soil to the well, we may reasonably find two sources of fever, and if the same conditions were found in the poorer districts of a town, we should hardly hesitate in thus judging, but the conclusion is not so undoubted in the country, for we find even worse manure heaps close to each small farmhouse in the country with families, often overcrowded, sleeping in close proximity, and apparently with no mischievous results.

Again, this insanitary condition of the Red-row is no new thing. Up to eight or ten years ago, the row was fully inhabited, and the insanitary condition was worse. Then, on closure of the mills, the number of families was reduced to two or three, and I believe cattle were sheltered in the other houses. Some eight or nine months ago the mills were again set going, drawing the present population to the Red-row. Yet, up to last January, I am told that fever was never known to be there.

Must we not conclude that, perilous as such an insanitary state is to the inhabitants, it is ut one condition in the production of an epidemic—a collection, indeed, of combustible matter, but which may remain harmless if not ignited. Once ignited, there appears to be scarcely any limit to the extent of the mischief. Whence the light comes, and what it is, I respectfully submit to the decision of the Medical Society.

[The discussion on Dr. King Kerr's Paper will appear in the next Number of the Journal.]

The Society then adjourned.

PROCEEDINGS OF THE DUBLIN OBSTETRICAL SOCIETY.

THIRTY-EIGHTH ANNUAL SESSION.

LOMBE ATTHILL, M.D., President.

J. RUTHERFORD KIRKPATRICK, M.B., Honorary Secretary.

Saturday, March 11, 1876.

Some Cases of Retained Ovum. By FLEETWOOD CHURCHILL, M.D., M.R.I.A.; Fellow and ex-President of the College of Physicians.

IN January, 1875, Dr. M'Clintock published a valuable paper on this subject, which he had previously read to the Obstetrical Society. He entered so fully into the question that he anticipated most of what I might have felt it my duty to say. I can confirm, from my own experience, what he then stated; and in so saying I may spare the Society a repetition, and confine myself to the relation of a few of the cases which occurred in my own practice.

CASE I.—Mrs. R. consulted me many years ago for a recurrent bleeding from the womb, which, though never excessive, had annoyed her for some time.

She told me that she had miscarried three months before, and of this she had no doubt. There were no symptoms of pregnancy, no enlargement of the breasts, no morning sickness, and no tumour to be felt above or behind the pubis. Under these circumstances I thought that it might be simple irregularity from congestion, which so often follows miscarriage.

As the discharge was going on when I saw her I prescribed some ergot of rye, and the next day I found it had brought away the shell of an ovum, the fœtus being absent. The lady recovered at once, and had several children afterwards.

CASE II.—Mrs. M., who had previously had several children, and suffered from chronic endo-metritis, missed two or three periods, and believed herself pregnant. A short time afterwards, however, she told me that her changes had recurred, and they continued to return, though irregularly, for some time. Somewhere about six months after the first stoppage I saw her and could find no sign of pregnancy, neither morning sickness nor areolar development, nor glandular enlargement of the

breast. There was clearly enlargement of the uterus, as it could be felt above the pubis, but whether from containing something or from general enlargement I could not make out. There was neither the foetal heart to be heard nor the placental souffle.

Although the lady maintained that she was not pregnant, I thought it worth while to try the ergot, and was greatly gratified when I found the next day that she had expelled a macerated ovum with a foetus of near three months, which must have been retained between two and three months after its death. Let me add that neither the discharges nor the ovum had any foetus.

CASE III.—Mrs. A. came up from the country to consult me about an irregular discharge from which she had suffered three months. She had previously had several children, and did not believe herself to be pregnant. As there had been no suspension of menstruation, and as there was no symptom of pregnancy, I thought it might be an ordinary case of menorrhagia, more especially as I found the os uteri wide open and granular. I therefore passed the sound, which entered four inches, but neither blood nor watery discharge followed.

In the evening she sent for me on account of severe pain—uterine, apparently—for which I prescribed a full opiate.

On calling the next morning I found a macerated ovum of two months, which had been expelled during the night.

CASE IV.—Mrs. P., mother of three or four children, consulted me for menorrhagia, from which she had suffered for some months. It recurred each month, and was very profuse, of which her pallid face was evidence. She told me that she had miscarried a good while (I do not remember the exact time) before, but was very positive that she was not then pregnant. Nor had she any symptoms thereof. I found the uterus enlarged, with a wide open, granular os, and other evidences of endo-metritis, for which I treated her.

This went on for two or three weeks, when one night, the flooding became so alarming, that she sent for Dr. Pollock, who lived near. He plugged the vagina and ordered the usual remedies, and the next day we found her without pain, but blanched. The hæmorrhage, however, was arrested. It recurred subsequently, but less violently, and we determined to give ergot, in order that, if the cavity of the uterus contained anything, it might be expelled.

Early the next morning, when Dr. Pollock made an examination, he found a substance protruding through the os, and with some difficulty he removed it. It proved to be a macerated ovum of about three months, much condensed. She was some months in recovering from the loss of blood.

CASE V.—In March, 1872, Dr. Frazer, 40th Regiment, asked me to visit a patient with him who was suffering from some enlargement of the womb. She was a young woman, about twenty-two years of age, had previously enjoyed good health, was the mother of several children, the last of whom she had weaned in January.

From the previous December (1871) she had been troubled with uterine discharge of a pale red colour, stopping at intervals, and recurring, but irregularly. She refused to believe that she could be pregnant, as the discharge commenced in December, and she did not wean her baby until February, and the milk had not failed. In March she discovered a tumour above the pubis. I found her free from pain, but weakened by the repeated discharges. At the moment she was free from discharge. There were no symptoms of pregnancy, nor could I make out any ground for believing her so. I found the uterus reaching midway between the pubis and umbilicus, without tenderness or great hardness. Internally, I found the vagina relaxed, the uterus bellying out above the cervix, the os wide open, as in endo-metritis.

As she had had several children, and was familiar with the symptoms of pregnancy, yet declared herself not pregnant, and as I could detect no such evidences, I felt myself at liberty to use the uterine sound. It passed five inches into the uterine cavity, gave no pain, and was followed by no discharge of any kind. So far I was inclined to consider the case one of polypus, or fibroid or interstitial enlargement, and I proposed a further examination in two days, and, if necessary, the use of tangle tents.

Two days afterwards I received a note from Dr. F., commencing:—"Our patient has sold us somewhat. She had violent pains last night, and expelled a macerated foetus" of about four months. There was a good deal of hæmorrhage, and some difficulty in removing the placenta. She had a slight feverish attack, but recovered well.

CASE VI.—In 1872 a lady, aged forty-eight, came up from the country to consult me about a tumour she had detected in the lower part of the abdomen between the pubis and umbilicus.

It was firm though not hard, and had the shape of the uterus, but was very movable. With the stethoscope I could detect neither foetal heart nor placental souffle. A bi-manual examination showed it to be the uterus. There was no change in the breasts or nipples. She had had fourteen children, and did not believe that she was pregnant. Some six months before menstruation had stopped for two or three months, which she supposed was preparatory to its ceasing altogether. It did, however, return slightly and irregularly.

Not being quite satisfied, I postponed for a day or two making an examination with the sound, but that very evening I was sent for in a

hurry and found a macerated foetus of four months, with its placenta lying in the bed. In this case only, of all the six cases, the membranes had not been ruptured until the foetus was expelled.

I have related these six cases as examples of cases not very unfrequently met with. They are not all I have seen, but of others I have no notes. I have no means of computing the comparative frequency of such instances.

I quite agree with Dr. M'Clintock in the difficulty of the diagnosis, not merely because, as in all my cases, there is an absence of the ordinary symptoms of pregnancy, but because of circumstances which are decidedly misleading—*e.g.*, the lady telling us that she has miscarried some time before, or that she is "regular," or certain that she is not pregnant. Although the latter assertion only carries weight in the case of separation of husband and wife, yet in the case of a woman who has had many children it cannot be quite overlooked, and most certainly tends to confuse our diagnosis. In one or two cases I was either thus misled or off my guard, and was quite taken aback when the foetus was expelled; but in others where I was quite prepared for the possibility of a retained ovum, I could find no symptom on which to ground such a conclusion.

I am very much inclined to think that we are justified, on the ground of diagnosis, in adopting what I believe to be the best method of treatment—*viz.*, the introduction of the sound and the exhibition of ergot. In such cases as those I have related, where the usual symptoms are absent, or where, having existed, they have ceased for some months, we may be pretty sure that the foetus is dead, and consequently we shall not be interfering unadvisedly with gestation by employing such means as may cause the uterus to contract. If the uterus contain nothing, but is enlarged from other causes, the ergot and sound will do no harm, nor interfere with such other treatment as may be necessary.

As Dr. M'Clintock has observed, when the ovum is macerated or putrid there is rarely any hæmorrhage. One of my cases was an exception, and she was the only one whose recovery was slow. All, however, did recover.

I am sorry that in none can I fix with any accuracy the duration of the retention. In all but one the membranes had been ruptured long before expulsion, but in none was there any foetus of the discharges.

ARDREA, STEWARTSTOWN, CO. TYRONE

The PRESIDENT.—Gentlemen, a very interesting subject has been submitted to our consideration by our absent ex-President, Dr. Churchill. These abnormal products of conception sometimes give rise to grave difficulty and doubt. The first of the cases mentioned differs from the rest, for the shell of the ovum only was there. In all the other cases

there was an ovum. I regret that Dr. Churchill did not describe more fully what the actual condition of the shell was, because it bears on the question of "mole-pregnancy." Was the first case an example of a mole, which is nothing more nor less than the product of conception, *minus* the ovum, into which more or less extravasation of blood has occurred? A very interesting case of that kind came under my observation lately in the Rotunda Hospital, in which the ovum was retained for eleven months. In that case the prominent, and, in fact, only symptom was the total suppression of menstruation. After being pregnant, to her belief, some eight or ten weeks, she met with a slight accident, and had an attack of hæmorrhage, followed by severe pain. Subsequently the discharge ceased, and for the succeeding nine months there was no return whatever of menstrual or sanguineous discharges, her general health, however, continuing good. She came to the Rotunda for the cure of the amenorrhœa, and I made a vaginal examination, not, however, using the sound, because there was a possibility of pregnancy, but merely bi-manually, and this proved sufficient to excite uterine action, for in twenty-four hours afterwards she expelled a mole. The other cases Dr. Churchill has related are those in which, after the death of the fœtus, the products of conception were retained *in utero* for a long time, giving rise to various symptoms, each case being different from the other. A case came under my own observation of a lady who retained a dead fœtus for more than three months after the fifth month of her pregnancy. Dr. Churchill seems to have been unable to decide the exact durations of the pregnancy in his cases, but the time in all must have been very considerable.

DR. KIDD.—A case of this kind came under my observation lately, which illustrates the difficulty in which the medical man is often placed. Some time ago a lady, who had been in India, and occupied a very prominent position there, came to Dublin, and soon afterwards she had some hæmorrhage from the uterus. I was asked to see her, and, on making an examination, expressed my opinion that she was threatened with a miscarriage. She would not believe that she was pregnant at all; however, after making a second very careful examination, I reiterated my opinion that she was pregnant, and was threatened with a miscarriage. She had had several children. She was past the period at which quickening usually occurred with her, and she had not felt any movement; indeed, it was more than five—nearly six—months since her last menstruation. The uterine tumour—for she maintained that it was a tumour—had ceased, she said, to grow. It was as large as the uterus ought to be at about the sixteenth or eighteenth week of pregnancy. No sound, either of the placenta or fœtal heart, could be detected, and her breasts did not exhibit indications

of pregnancy. On examination, it was very evident that the tumour, whatever it might be, was a uterine one. That I was quite able to make out. The *os uteri* had that peculiar pulpy feel which, according to my experience, it always has in pregnancy, and never, I believe, in other cases. The lady had repeated hæmorrhages. I watched the case for some time. One day her discontent arrived at such a pitch that she sent her maid to Dr. M'Clintock, to ask him to come and see her. He happened to know that I was in attendance, and refused to see her, except along with me, which did not answer her purpose, and, accordingly, she did not see him. She then went to London, and consulted one of the most eminent obstetricians of that city, who, I fancy, was led away by her own statement and that of the gentleman who accompanied her, for he sent her to Kreuznach, that the supposed tumour might be got rid of. Immediately all her circle of family and friends, which was one of considerable prominence in Ireland, were made acquainted with the extraordinary mistake that Dr. Kidd had made; how he had declared her to be pregnant when she was not, and that in London the true nature of the case had been discovered. Accordingly, she went to Kreuznach, and did get rid of the tumour, by expelling a four months' fœtus; and I am happy to say that—with more honesty than often occurs under such circumstances—the lady's mother took pains to write to all their friends in Ireland who had been told of Dr. Kidd's egregious error, stating that Dr. Kidd was right after all. There can be no doubt, however, that the diagnosis of these cases is involved in extreme obscurity and difficulty. When it was urged by the lady, whose case I have just mentioned, that her womb was not the same size it had been in previous pregnancies, and that she felt no movements, I said that she must have either made a mistake in her reckoning, or that the child was dead, but that I had no doubt she was pregnant. I believe the diagnosis in such cases must depend on the history of the case. First, you have the early symptoms of pregnancy, then these symptoms cease, the breasts diminish, the tumour ceases to grow, and, in fact, all the symptoms of pregnancy gradually disappear; then you have hæmorrhage and sero-sanguineous discharges taking place, and when you come to examine the tumour you find it does not correspond in size with the period of pregnancy, as calculated by the patient. You have also, as I have already mentioned, the peculiar pulpy condition of the *os uteri*, which is very characteristic of pregnancy. At best I believe that we must, in the first instance, express only qualified opinions, and always assume that the patient is pregnant, or quick with child, and until we have indisputable evidence of the child being dead, we should not adopt any expedient to insure its expulsion.

DR. DENHAM.—I cannot allow this occasion to pass without thanking

my old and valued friend, Dr. Churchill, for having given us so truly practical a paper, the value of which any man engaged in obstetric practice must thoroughly realise. He has mentioned six cases. In two of these ergot seems to have had an almost magical effect in giving relief from all pain and suffering. I regret to say that my experience of ergot is by no means commensurate with those facts. I have given it again and again for the purpose of expelling what I supposed to be a blighted ovum, and sometimes to stop hæmorrhage in the early months of pregnancy, and seldom with much effect. If active measures are to be taken, I believe that either the sound, or dilatation of the os will prove more effectual than the mere giving of ergot in any form. I think the question of danger to the life of the mother, consequent upon the drainage of the system produced by constant hæmorrhage, is a very important one. If the mother be in that condition I believe the ovum must perish; therefore, I think, our attention should rather be directed to the importance of preserving the life of the mother, rather than of retaining a dead ovum, or a living ovum that must of necessity be expelled. I think the cases in which the ovum is retained after hæmorrhage are so rare that it is rarely worth while to attempt to preserve it. In two of the cases related ergot seemed to act magically; in another case the sound was employed with effect; in another case, I believe, there was only an examination with the finger; while in one case there was no examination. I am reminded of a case which came under my notice some years ago. A lady came up from the country, having a tumour of considerable size and prepared for a very important operation, as she had a letter from her medical attendant saying it was impossible she could be pregnant. However, she had had children before, and I made an examination such as we ordinarily make. Either my examination or the effect of the journey brought on pains, and, in the course of the night, she expelled a five months' fœtus, notwithstanding the letter of her attendant, who had watched her case attentively for a length of time. In this class of cases the character of the medical attendant is more likely to be involved than in any other.

The PRESIDENT.—I wish to confirm Dr. Denham's statement by giving my opinion as to the inefficiency of ergot in such cases. My opinion, founded on very careful observation, is that ergot is utterly inert as a means of exciting uterine action in the early months of pregnancy. I believe that it has an effect in arresting hæmorrhage in these cases, but does not excite expulsive action in the uterus. For many years I have been in the habit of treating cases of threatened abortion with ergot, not to expel the ovum, but to check hæmorrhage and bring about a more tonic condition of the uterus. One case was that of a lady who previously had three miscarriages, and who was, for the fourth time,

suffering from well-marked symptoms of abortion in the third month of her pregnancy. In her case I administered ergot for three weeks, and the result was that the hæmorrhage and pain ceased, and she went on to her full time. Her's was one of those rare cases in which we can check the tendency to abortion, and enable the patient to go on to her full term; and yet ergot was administered continuously for weeks, with the most beneficial result; instead of effecting the expulsion of the ovum, it seemed to have a diametrically opposite effect. A few minutes ago I alluded to a case in which what is commonly called a mole had been retained *in utero* for nine months after a supposed miscarriage. In that case I neither introduced the sound nor did I give ergot, yet the woman extruded the ovum in twelve hours after my digital examination. If I had given ergot or used the sound, the extrusion of the ovum would have been set down to either of these causes, but the simple pressure upon the uterus exercised by me in making a careful, and not by any means a rough examination, proved quite sufficient to induce the uterus to expel the ovum. I think it possible that in some of Dr. Churchill's cases the stimulus produced by his examination may also have sufficed to produce expulsion of the ovum without any action having been produced by the ergot. Dr. Denham has mentioned a case in which a letter from the medical attendant of a patient stated that pregnancy was impossible. A case very like that occurred to myself about three years ago. The lady assured me that since her confinement, sixteen weeks previously, she had never for one day been free from a red discharge. She had also had repeated attacks of uterine hæmorrhage during those sixteen weeks. Believing her statement that pregnancy was impossible, I introduced the sound, and the result was that within twenty-four hours she expelled an ovum eight or ten weeks old. This shows how pregnancy may occur in cases where it may have been supposed to be impossible. I generally give ergot in ten grain doses, or half a drachm of the liquor ergotæ, every four or six hours, in cases of threatened abortion.

A Case of Complicated Labour, in which collapse from Post Partum Hæmorrhage was treated Successfully by the Subcutaneous Injection of Ether. By A. V. MACAN, M.B.; Assistant Physician to the Rotunda Hospital; and Obstetric Surgeon to the City of Dublin Hospital.

IN reading the works of the older writers on midwifery, it has often occurred to me that cases of serious *post partum* hæmorrhage were much more common in the "good old days" than they are at present. This, if true, is probably due to the increased attention now paid to the preventive treatment of *post partum* hæmorrhage, an able paper on which subject was read before this Society in December, 1873, by Dr.

M'Clintock. Still *post partum* hæmorrhage will now and then occur, no matter what care is taken or skill exercised to avert it; and, though by the free use of brandy and the timely injection of the perchloride of iron, we can generally prevent the occurrence of syncope, still, should it occur, the administration of brandy becomes not only useless, but positively injurious, and unless we can by other means rouse the patient from unconsciousness, death usually soon renders any further interference unnecessary.

In such cases Professor V. Hecker, of Munich, has used the subcutaneous injection of ether with marked success, and recommends it strongly to the profession. The importance of the subject, the respect due to such a high authority, and the fact that cases in which this treatment can be put to the test happen but rarely in the practice of any one individual, must be my excuse for bringing a single case, and that perhaps an exceptionally favourable one, under the notice of this Society, without waiting to see whether further experience would, or would not, confirm the results obtained in this instance.

At 8 p.m. on December 2nd, 1875, I was requested by Mr. Kilbride, then one of the intern pupils of the Rotunda Hospital, to visit a case of tedious face presentation, at 22 Temple-bar, off Fleet-street. The history of the case, as communicated to me by him, was as follows:—

CASE.—Mary Ellis, aged thirty-three, 11th pregnancy. Has had four children at the full time, followed by four miscarriages, which caused her to seek medical advice. As well as could be gathered from her account she was suffering from ulceration of the os. Six months after she was cured she again became pregnant, and the child, which she carried to the full time, is now about two years old.

She enjoyed good health during the present pregnancy till within nine weeks of her full time, when she began to complain of a gnawing pain in the lumbar and hypochondriac regions. This was accompanied with great irritability of stomach, and a marked decrease in the amount of urine secreted—the abdomen being very much larger than in any of her former pregnancies.

Her labour commenced on December 1st, about 7 p.m., the first stage being very long and tedious, the uterus being greatly over-distended by hydrops amnii. At noon on the 2nd, the os being nearly fully dilated and the labour almost at a stand-still, the membranes were ruptured by Mr. Kilbride, and two gallons or more of liquor amnii allowed to escape. This gave great relief, though at first she felt a little faint. The uterus, however, remained in a state of complete inertia from that time till 8 o'clock p.m., though all the ordinary means, such as change of position, walking about, and a stimulating enema, were used to excite it to contract. It was on account of the uterine inertia that I was requested to see her, no serious difficulty being anticipated

from the unusual presentation. However, when I arrived at about 8 o'clock she was up and walking about, being very cheery about herself, for the bearing-down pains had just commenced, and she said she was never very long once they had set in in earnest.

On making a vaginal examination, the first parts that met the finger were the eyelids, which seemed unusually swollen. This did not astonish me much, as it was now eight hours since the membranes had been ruptured. On passing the finger backwards and towards the right side, I was able to recognise a very small nose, but I could not make out either the mouth or chin. I thought, therefore, it must be a case of brow presentation; but on passing the finger forwards and to the left in search of the anterior fontanelle, my finger came on a pulpy mass, which I at the time took for the caput succedaneum. On passing the finger between this and the pubes I almost at once came on an ear, which felt flatter and thicker than usual. Just behind the ear was a large bony projection, which felt like an elbow; and on passing the finger still further towards the left acetabulum, I felt the fœtus give a most violent kick. This movement of the fœtus was so marked that it had been noticed by almost every gentleman who examined the case. On passing the finger further round the presentation, it almost at once encountered the other ear, which was also thicker and flatter than usual. I now endeavoured to pass my fingers up at the sides, but they impinged against an irregular mass, the several component parts of which I could not recognise. The above peculiarities were so well marked that I was at once able to say I had never felt anything similar before; but it was not till after some thought I came to the conclusion that the face of an anencephalous fœtus was presenting. This idea, when once entertained, was strengthened by the fact of there having been hydrops amnii, which showed that the ovum was to a certain extent unhealthy.

As the question of diagnosis would be very important, if from any cause we were called upon to deliver artificially, it may be well briefly to recapitulate the points on which it was principally founded. The most striking of all was the peculiar feel of the mastoid processes; next to this came the shape of the ears and the short distance between them; and lastly, the violent movements of the fœtus when the finger was passed from one mastoid process to the other, which was caused by irritation of the exposed portion of the medulla oblongata. By this symptom alone Tarnier has been able to diagnose the deformity even before the rupture of the membranes. If to these be added the hydrops amnii, a condition usually accompanying this deformity, no doubt can remain as to the nature of the case.

In the present instance, as there was no indication for immediate delivery, and as uterine action was getting stronger, I left the case in charge of Mr. Kilbride, giving directions to be sent for in two hours if

the labour had not made good progress. At 11 o'clock, p.m., a messenger arrived to say that the child had been born at about half-past ten, and that its birth had been followed by uterine inertia, with its usual concomitants—*post partum* hæmorrhage and retained placenta. On my arrival at 11.20 p.m. I found the woman with all the symptoms of severe *post partum* hæmorrhage, her pulse being 140 and scarcely perceptible. On making inquiries I was told that a large quantity of blood—more than a pint—had escaped immediately after the birth of the child, and that since that time, which was about an hour, large clots had been expelled at intervals, though every means had been used to excite contraction.

On placing my hand over the abdomen I found the uterus large, soft, and flabby, and reaching fully to the umbilicus. On making firm pressure over the fundus some clots were expelled, but the placenta did not move in the least. Taking all the circumstances of the case into consideration, I thought it would be best to remove the placenta at once—an operation which, in the relaxed condition of the parts, did not seem likely to prove difficult. Two or three times, however, I thought my hand in the uterus had reached the fundus, and attempted to withdraw the placenta, only to find that it was still caught higher up. This, I think, was owing to the counter-pressure exerted by the left hand over the uterus causing partial inversion of the relaxed and flabby walls. Once also I heard air plainly pass into the vagina as the arm was partially withdrawn. As soon as the hand in the uterus had really reached the fundus, there was no difficulty in removing the placenta; and so little blood escaped after its removal that I thought it unnecessary to inject the perchloride of iron which was ready at hand. The uterus, however, was still very large, and on making firm pressure over the abdomen, air was plainly heard escaping from the vulva; and on making a vaginal examination, it seemed to me as if there was actually an empty space or hollow within the uterus. During all this time brandy had been freely administered, and when the woman was bound, I gave her a draught containing 45 minims of tincture of opium, and a drachm of chloric ether, in an ounce of brandy. This she swallowed with difficulty, and her state was so critical that I determined to try the effect of the subcutaneous injection of ether. Unfortunately I had no ether with me, and when I returned with it in about half an hour, the woman's condition had become very much worse. She was then quite insensible, deadly pale, and pulseless, with fixed eyes, dilated pupils, clammy face and extremities, and short and superficial respiration. On examining the vulva, I found there was a thin streak of blood flowing over the thigh, and as it was obvious that if the smallest quantity more blood were lost the patient must die, I determined to combine the injection of the perchloride of iron into the uterus with the subcutane-

injection of ether. Having, therefore, grasped a fold of the skin covering the abdomen, I injected two syringefuls, or about 3ss., of ether well into the subcutaneous cellular tissue, and then injected about six ounces of the usual solution of iron into the uterus. Before I had finished injecting the iron the pulse returned at the wrist, and, emboldened by this, I injected a third syringeful of ether close to the former one. The effect produced was most marked, the woman soon turning of her own accord over on her side, and declaring, when asked how she was, that she felt much better. The change was so sudden and so great that every one in the room was satisfied it was produced by the ether. Shortly afterwards the woman vomited, and though reaction was a long time before it was established, the woman improved so much that I felt justified in again leaving the woman in charge of Mr. Kilbride, whom I have to thank for his great care and attention of the case throughout.

I need not trouble you with the history of the woman's convalescence, which went on uninterruptedly. She was carefully syringed every day with Condyl's solution and warm water, until the discharge, which was at first very offensive, became natural; and on the twelfth day she was able to sit up, though still very weak and anæmic.

There are, I think, some points in this case besides the effect of the ether which are worthy of notice. The first is the etiology of the deformity. This Professor Rudolphi, of Berlin, has proved by a collection of specimens to be intimately connected with hydrocephalus, the pressure first causing atrophy of the brain and subsequently forcible separation and absorption of the cranial bones. This accounts also, I think, for the hydrops amnii which so frequently accompanies the deformity.

The second point of interest is as to the nature of the interference, should artificial delivery become necessary. Turning is, of course, the first treatment that occurs to one, but it may often be avoided, either by passing the hand in and grasping the small head, and thus extracting; or by hooking the finger into the mouth; or, lastly, by bringing down one or both arms, and extracting by them.

The fact that when the uterus is very large and the walls very relaxed, pressure outside may tend to confuse the hand inside, by causing partial inversion, is, I think, deserving of attention, as also the apparent hollow left in the uterus after the removal of the placenta, which was not accompanied with hæmorrhage, and which may have caused or been caused by the entry of air, already noticed. With regard to the subcutaneous injection of ether, there are one or two things which require further explanation. The first is the quantity to be used. This depends entirely on the patient's pulse. Professor Hecker frequently injects 15 syringefuls (about 3iv.) from 3 to 5 at a time, at short intervals. The injection may require to be repeated, as the effect is very transitory. The part most suitable is

the loose abdominal walls, but the gluteal region is easier got at if the woman has on a binder. The only thing to be attended to in making the injection is to pass the syringe deep enough; if you fail to do this, you will probably have troublesome abscess. Professor V. Hecker has never seen an abscess formed at the seat of the injection. The injection itself is rather painful, but this is of little moment if his statement be true, that it will in many cases render transfusion unnecessary; even if not quite so efficacious, it is at all events free from danger, and can be carried out without any assistance or complicated apparatus. Its use need not at all be confined to cases of *post partum* hæmorrhage. I have myself since used it in accidental hæmorrhage, where it enabled me to deliver at once, though the patient had been pulseless for more than an hour. I have also used it in puerperal fever, but without permanent benefit, though the pulse, which could not be felt before the injection, returned almost immediately; also in a case of rupture of the uterus, where, I think, it prolonged life. You yourself, Mr. President, have, I think, used it successfully in a case of placenta prævia.

In surgical practice it was used long ago by Dr. Bennett for collapse in a case of strangulated hernia, and Mr. Croly has lately used it in a similar case—with what result I do not exactly know.

Professor Winckle, of Dresden, has used it with great success in a case of pulmonary embolism following confinement, where it completely relieved the intense dyspnoea.

There is, I think, little doubt that this treatment is deserving of our careful consideration, though only a more extended trial by different and unprejudiced observers can finally determine its exact therapeutic value.

The PRESIDENT.—Dr. Macan has very modestly termed his communication “A Case of Complicated Labour, in which Collapse from *Post Partum* Hæmorrhage was Treated by Subcutaneous Injection of Ether.” But his communication contains a great deal more than that. You have in it examples of tedious labour, of hydrops amnii, of the detection of a monster before delivery, of *post partum* hæmorrhage, of retained placenta, and, last of all, of this subcutaneous injection of ether. There is not one of these points that it would not be interesting to discuss, more especially that with reference to the diagnosis of these monstrous cases, which, though rare, do, from time to time, occur, and which give rise to the greatest perplexity to the medical attendant, especially if his experience is limited. It is highly creditable to Dr. Macan that he should have so clearly diagnosed such a case in its early stage. He has pointed out that the very prominent symptom of hydrops amnii is common in these cases of acephalic monsters, and that a spasm is produced on touching the exposed portion of the cord. As to the treatment by the subcutaneous injection

of ether, Dr. Macan mentioned it to me very soon after the occurrence of this case, and I was so struck by the success which followed its use, that I resolved to try it. It so happened that an opportunity of doing so did present itself to me shortly after. About a month ago I was asked to see, in consultation with Dr. O'Farrell, of Lower Dominick-street, a case of placenta prævia. On my arrival I found the patient pulseless; in fact she appeared to be moribund. Dr. O'Farrell had judiciously and promptly plugged the vagina, so thoroughly that not a drop of blood was being lost when I arrived, but the quantity she had previously lost was very large. She had got out of bed early in the night to pass water, and while she was in the act of doing so, hæmorrhage suddenly set in so profusely that a large chamber utensil was two-thirds filled with blood; the bed and bedclothes were also saturated. On my arrival, as already stated, she was pulseless, cold, and appeared dying. Dr. O'Farrell had given her brandy very freely, but, unfortunately, she vomited it nearly as rapidly as it was given. The case was desperate. I then bethought myself of the treatment suggested by Dr. Macan. We obtained some ether, and I injected two syringefuls, or about a drachm, of it into the substance of the gluteus. Within a moment or two afterwards we felt the pulse at the wrist; and from that time the patient improved, so much so that at the end of two hours I was able to leave her, promising to return in the morning. On doing so, she had rallied sufficiently to justify the withdrawal of the plug. I then turned and delivered the patient of a dead foetus, and she recovered without any bad symptom. These cases, in which vomiting occurs after profuse hæmorrhage, embarrass the practitioner more than any others. You may succeed in stopping the hæmorrhage, but still life will remain in great danger. In a case which Dr. Kidd saw with me some years ago, and in which he used perchloride of iron, which was effectual in arresting the hæmorrhage, the life of the patient was very nearly lost from the subsequent vomiting. In cases of that sort stimulants are useless. In ether we have a stimulant which can be given hypodermically, safely and efficiently, in cases where the irritable condition of the stomach renders it impossible to give stimulants in any other way. My own experience, of course, relates to but one case, in which, however, no troublesome or unpleasant symptoms followed, nor was there any irritation about the parts beyond slight pain. I should add that Dr. O'Farrell was greatly impressed with the rapidity with which the smell of ether exhaled from the patient's mouth. You could smell it in her breath within a few minutes after the injection was given.

DR. F. T. PORTER.—What variety of ether did you use?

DR. MACAN.—Sulphuric ether.

THE PRESIDENT.—It was the ordinary sulphuric ether I used also.

DR. WILSON.—It seems to me that this question is one of the most interesting that could be brought forward. I think the Society and the Dublin School of Surgery are deeply indebted to Dr. Macan for having brought the question before us. It is one of vital interest to the community. The method of treatment is quite novel; and indeed, I think, that all subcutaneous methods are entitled to very great consideration. I hope his paper will be extensively perused over Ireland, and his plan of treatment, which is so capable of reviving women in their distress almost from death, adopted.

DR. M'CLINTOCK.—The treatment brought under our notice by Dr. Macan promises to be a most valuable acquisition to our resources. It possesses many of the advantages of transfusion, while it has a great superiority over it in being free from danger and very simple in its application. Transfusion, moreover, takes a great deal of time and trouble, and requires two or three assistants for its accomplishment, and the patient's life may be destroyed if it be not skilfully performed. I would ask Dr. Macan whether he is aware of this very powerful stimulant and restorative of the nervous system—for I presume we must so regard it—having been employed in cases of poisoning by chloroform inhalation? I think it might be a valuable remedy in such cases.

DR. MACAN.—I cannot give you any information on that subject.

In the absence of DR. ROE, DR. KIDD read the notes of a *Case of Retained Placenta*.

DR. KIDD said:—I saw the patient all through her illness, and must say that if the case had occurred after Dr. Macan's paper, we should probably have treated her differently, and that we would have entertained very much more hope of her recovery than we had at the time. It strikes me that Dr. Macan's paper opens a new era by the introduction of the use in such cases of the hypodermic injections of ether. It is quite new to me. Except in casual conversation, I never before heard anything at all about it; and I think the treatment would be of great importance in the case I am about to mention. These are Dr. Roe's brief notes of the case:—

“*Case of Retained Placenta*.—M. C., Charlemont-street, aged twenty-five years, married two and a half years, had a miscarriage three months after marriage, attributed to a fall off a ditch; she lost a good deal of blood at the time, but made a good recovery. Eleven months afterwards she gave birth to a male child, and made a good recovery. She became pregnant again in four months, and went on well until the

eighth month, when she had a premature labour, brought on, she said, by the exertion of moving furniture. Upon this occasion it was that I saw her, and the following is an outline of the case:—On the 20th February, 1875, she awoke at five in the morning with a pain in the lower part of the abdomen. At 7 a.m. the bowels were moved, and at 7.30, whilst alone and lying on the floor, she gave birth to a female child which was born alive. An alarm being raised in the house, a nurse was sent for, and luckily a most competent one was at hand. Upon her arrival she states that she divided the cord, put the mother to bed, and made pressure over the uterus. The placenta not coming away as soon as she expected, she introduced her fingers along the cord and found that the os and cervix had contracted firmly round it. She waited for another hour, and as the placenta did not come away, sent to the Coombe Hospital for assistance. She was immediately visited by the Midwifery Assistant upon duty, who endeavoured to press the placenta away, but severe hæmorrhage set in, which reduced the patient to a very weak state. The hæmorrhage continuing, she was seen three hours afterwards by Dr. Kidd, who found her pulseless and the os firmly contracted round the cord. The patient was reduced to such a state from loss of blood that the resident medical officer of the hospital, who was in attendance upon her, had all the appliances ready for the performance of transfusion. Dr. Kidd, however, from the very weak state of the patient, and as no hæmorrhage was going on, thought it safer to have the placenta in the uterus than to make any effort to remove it. He ordered her to be supported with beef-tea and stimulants, and a number of pupils volunteered to watch her by turns, so that she should not be at any time alone. She was carefully watched, and pressure kept up over the uterus by the hand and binder. I saw her at 6 p.m., found her still very weak; pulse scarcely perceptible; made no attempt to remove placenta; ordered her to have beef-tea and brandy. Saw her again at 10 p.m.; she was still weak; pulse 130; skin hot and dry; tongue furred, and she complained of great headache; made no attempt to remove placenta. On the next morning (the 21st inst.), twenty-nine hours after delivery, I saw her with Dr. Kidd. We found she had rallied a little; pulse 110; tongue furred; skin hot and dry; the headache better. We agreed now to make an effort to remove the placenta. I passed my fingers through the os, and with some difficulty succeeded in passing my hand into the uterus and removed it. She was now tightly bound, and a dose of ergot and stimulants administered. There was no further bleeding. She made a good recovery, and was up on the 11th day. She is now quite well."

I saw her, as Dr. Roe mentions, some hours after the birth of the child. At that time she was in a state of extreme prostration. She was

in charge of the Resident at the Coombe Hospital, who had been with her for some hours before I saw her, and thought her so ill that he had everything ready for the performance of transfusion when I arrived. We could not feel any pulse at the woman's wrists, and she was tossing about and evincing all the signs of having suffered extreme hæmorrhage. No hæmorrhage, however, was then going on, and we seriously debated the question whether it was wiser to leave her in that state, with the placenta still in the uterus, or to attempt to remove it. I believe the orthodox and standard practice in cases of hæmorrhage is always to remove the placenta at once, if you can; but this was one of those exceptional cases in which it seemed to us advisable to deviate from that routine practice, and to leave the woman with the placenta still in the uterus, rather than subject her, in the state of extreme prostration in which she was, to the shock that would necessarily be caused by an attempt to pass the hand into the uterus for the purpose of removing the placenta. The direction I gave at that time was that she should be most carefully watched, and three students of the hospital agreed to remain constantly with her. They not only bandaged her, but they kept up manual pressure over the uterus, so that she was never for a moment allowed to remain alone from that time until we removed the placenta the next day. One of the objects of the bandaging was to support the large veins in the abdomen, and prevent the blood's accumulating there, and so maintain the circulation in the brain as much as possible. Dr. Roe's object in submitting this case is to give an example of deviation from routine practice under circumstances of extreme danger. There was no hæmorrhage from the time I saw her until the placenta was removed, although, of course, she would have been liable to it. About twelve o'clock on the 21st we removed the placenta.

DR. M'CLINTOCK.—Does Dr. Roe say whether, on introducing his hand, he found the placenta detached or adhering to the uterus?

DR. KIDD.—It was detached, but the paper does not say so.

THE PRESIDENT.—This is a very interesting case, as well from the severity of the symptoms and the os getting so tightly contracted round the cord, as from the long period that the placenta was retained. There can be very little doubt as to the judiciousness of the practice advised by Dr. Kidd, and I believe the patient's life was saved by it. Doubtless, it is possible sometimes to leave the placenta a considerable time in the uterus without danger to the patient; and though it is right and proper that the placenta should be removed in a short period after delivery, still it is quite evident that when, from any reason, it is necessary to deviate from that practice, the placenta may be left *in utero* with comparative

safety for a considerable length of time. My own belief is that there is rather a tendency at present to remove the placenta too rapidly. A great many practitioners remove the placenta within five minutes after the birth of the child. I do not think that a judicious practice, although no bad results may follow from it. Dr. Barnes has pointed out the fact that in cases of placenta prævia hæmorrhage has not necessarily the effect of relaxing the os uteri, and here we have a case in which the os was contracted closely round the cord, although the patient had almost bled to death. The fact is important, because it is laid down in many books that hæmorrhage necessarily relaxes the os uteri, which, I am quite sure, is a fallacy.

DR. DENHAM.—I fully concur in the treatment which was adopted in this case. If the hæmorrhage had been going on still, at the risk of losing the patient the practice should have been to introduce the hand. I think that in this case the placenta was left quite long enough in the uterus, but not too long. Some time ago a case came under my notice in which, after the delivery of the woman, the placenta did not come away, and the practitioner who was attending her could not press it out. He had some urgent calls and left her for an hour or two, and on coming back he found her very comfortable in bed and no hæmorrhage. He waited a little longer, and eventually waited for three days, when the woman had a fearful rigor. He got alarmed and sent for me. I introduced my hand and removed a non-adhering placenta in a state of putridity. I need scarcely say that fever set in, and the woman died very rapidly. As to the practice of leaving the placenta in the uterus for an indefinite period, I believe it to be an extremely bad one.

The PRESIDENT.—I hope the Society does not understand me as advocating the practice of leaving the placenta *in utero*. I only protest against the practice of, in all cases, pressing it out in two or three minutes after delivery. Under particular circumstances the placenta may be left *in utero* for a considerable time. I am afraid you could not lay down a general rule for exceptional cases. I think the question of safety in leaving the placenta depends on whether it is detached or not. If it be adherent it may remain *in utero* for a considerable time without causing any dangerous symptoms. I had some years ago a case under my care in which the placenta was retained for twelve weeks after a premature confinement, but it was quite evident that for all that time it was attached; for when I dilated the uterus and proceeded to remove it, it proved to be no way fœtid, nor had it undergone any decomposition, which would have occurred if it had not been attached.

The Society then adjourned.



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ON FOOT ON XANTHELASMA PALPEBRARUM.

PROCEEDINGS OF THE PATHOLOGICAL SOCIETY OF DUBLIN.

President—HENRY KENNEDY, M.B., F.K.Q.C.P.

Secretary—E. H. BENNETT, M.D.

Case of General Xanthelasma Planum, associated with Chronic Jaundice.—

DR. A. W. FOOT made the following communication to the Society, and exhibited a highly-finished drawing of the patient referred to:—A married woman, aged forty-one, in height five feet two inches, in weight a hundred and six pounds (seven stones eight pounds), was admitted into the Meath Hospital, 13th November, 1875. She was placed in charge of Practising Pupil Mr. E. P. M'Donnell, under supervision of Clinical Clerk Mr. G. Lynch, and to both these gentlemen I am indebted for the care and attention with which they investigated the case. At the time of admission the patient was deeply jaundiced, and had been so since the Christmas of 1872—a period of almost three years. The xanthelasma had appeared eight or nine months before she came under my observation, presenting itself first upon the upper eyelids, and had since then involved the lower lids, parts of the skin of the face and neck, the mucous membrane of the mouth, the flexures of the elbows and wrists, and the flexion creases of the fingers and toes. She sought admission to hospital not on account of the xanthelasma, which, with the exception of slight pain in grasping, was of no inconvenience to her, but in order to get relief from severe pain connected with the liver, which had confined her to bed and deprived her of sleep for five weeks previous to her application. She obtained relief from the hepatic symptoms during her stay in hospital, and felt so much better in various ways, that she left the house at her own request 23rd December, 1875, still jaundiced, the xanthelasma unchanged in some places, and considerably increased in others.

The woman had dark hair and dark gray eyes; she said she had had a fair complexion prior to the attack of jaundice, for which she could assign no cause, unless that of "hard work," which her occupation of a "clothes-cleaner" required, in scrubbing the garments with heavy brushes. The jaundice was not ushered in with severe pain, such as the impaction of a gall-stone would be likely to occasion. Her health, which had previously been excellent, failed after the occurrence of the jaundice, which, with the exception of a remission for about four weeks some months after its commencement, had continued permanently up to the present. She kept her bed off and on, being unable to work, because it

made her "sick" to do so. For about two years after the appearance of the jaundice she was free from pain of any account, but during the third year of its continuance she had frequent and severe attacks of pain in the region of the liver. During one of these attacks of the liver, occurring eight or nine months prior to admission, she had kept her bed for five or six weeks; on getting up after it was over, and looking in the glass, she observed yellow patches on each upper eyelid. Their development had been unattended with any local pain, heat, swelling, or abnormal irritation. She had been quite unaware of their existence until she saw them in the glass, and she asked those who had been about her why they had not told her of them? She afterwards thought that she might have rubbed her eyelids more than other parts, to relieve the itching caused by the jaundice. Soon after the patches on her eyelids had been noticed she observed the appearance of the disease on the front of her neck. A subsequent attack of hepatic pain was the cause of her seeking admission to hospital. When admitted she had been about five weeks suffering from almost continual pain in the region of the liver, shooting thence down both legs to the feet and toes. This pain, which she described as "most severe," "fearful," "excruciating," "as if the back were opening," was worse at night, because during the day her attention "is distracted;" it had caused her to keep her bed, and had almost totally deprived her of sleep. When I saw her by gas-light, the evening of her admission, she illustrated well the difficulty, often amounting to an impossibility, of recognising jaundice by artificial light. Seeing her swarthy face, with *white* patches on the eyelids, I thought at first that she was a case of Addison's disease, with leucoderma, as neither the skin nor the eyelids showed their real colours. However, examination of the trunk showed the absence of any special discoloration of the axillæ, areolæ, abdomen, or groins. Investigation of the hepatic region showed the liver to be greatly enlarged, and exquisitely tender; in the right lumbar region posteriorly there was particular tenderness over the whole of the space between the twelfth rib and the crest of the ilium, but especially over the upper half of this interval; anteriorly the hepatic dullness extended for two inches below the margin of the ribs in the nipple line; the enlargement was smooth; there was no appreciable tumour of the gall-bladder. She was free from fever, the pulse 82; it did not increase her pain to draw a full breath, cough, or sneeze. She frequently interrupted my examination with entreaties to give her something to relieve the pain, and make her sleep. There was loss of appetite, but no marked irritability of stomach. The pains were referred much more to the posterior region of the liver and to the small of the back than to the hypochondrium or epigastrium; they were often of a throbbing, pulsatile nature, and she had occasionally had rigors. A hot poultice across the back and two thirty-drop doses of liq.

op. sedat., with an interval of three hours between them, gave her considerable relief for some time.

When her medical history had been inquired into, it was ascertained that none of her relations had suffered from liver disease; she had never suffered from "biliousness," or from "sick headaches." While she repudiated teetotalism, she would not admit of any nearer approach to intemperate habits than "a liking for a glass of whiskey." She had been married at twenty-three years of age, and had had three children, all of whom died young of infantile affections. There was no history or evidence of syphilis. The catamenia appeared at eighteen, had always been regular and painless, but ceased three years prior to the jaundice, at the age of thirty-five, without any constitutional disturbance. The cause assigned for their cessation was fretting at domestic annoyances; there had been but once the slightest sign of their reappearance since they stopped. She considered that her health had been invariably excellent up to the time of the attack of jaundice.

When examined on the day after admission the skin and conjunctivæ were deeply jaundiced, of a bright yellow colour; the "division" of her hair showed the strong contrast between the yellowness of the scalp and the blackness of her hair; the urine was of the colour of porter; the bowels were habitually constipated; she had been in the habit of daily taking seidlitz powders to make them act; the stools, though at the present time coloured, were usually of a whitish and unnatural hue. There was very frequent and general pruritus, always aggravated when she had pain in the liver; xanthopsia had never been complained of. She was weak and obliged to keep her bed, had no appetite, but unusual thirst. The xanthelasma, as it affected the eyelids, presented the greatest symmetry in situation and extent: on either side a band half an inch wide curved round each inner canthus, encroaching upon the sides of the nose; from these bands three processes radiated outwards—one along the inferior margin of the inner half of each eyebrow, another along the tarsal margin of the upper lid, and another along the inner third of the lower lid. This latter process spread out also over the region of the lachrymal sac in a direction downwards and inwards. On neither lids were the actual ciliary margins engaged, or the meibomian glands affected, and the mucous aspects of the lids showed no change. The upper lids on each side presented more than twice as much of the disease as the lower lids. Just outside each external canthus were two or three isolated papules, illustrating the mode of extension of the patches by the junction of peripheral additions. On the outer border of the tarsal margin of the left lower lid was one serous cyst, of the size of a hemp-seed, which had appeared at the time the discoloration was first noticed. The patches were of a uniform pale-buff or cream-colour, considerably paler than the adjacent skin, pliant, of a smooth satiny feel, of

irregular outline, but abruptly defined ; slightly raised, but appearing to be more so than they really were. On examination with a lens, the patches conveyed the impression of their being an aggregation of flattened papules which had coalesced into broad *plaques*. There was no vascularity or desquamation visible, nor any alteration of sensibility noticeable on the affected parts ; no trace of sebaceous glands ; the motions of the lids were unaffected ; there was no disturbance of vision or of the lachrymal apparatus. On each side of the face, in the angle between the lobule of the ear and the skin of the cheek, was a narrow buff stripe. The disease was well seen on various parts of the mucous membrane of the mouth, notably on the gingival prominences of the inferior incisors and at each side of the frenula, which, crossing the gingivolabial reflexion of mucous membrane, connects the oral part of the middle line of the lower jaw to the lower lip. The whole of the inferior aspect of the soft palate, except the uvula and the glossal and pharyngeal processes, was of a buff colour, and the coloration extended forwards over part of the mucous membrane of the hard palate. Evidences of the disease in a less developed form presented themselves in patchy spots on the gums of the upper incisor teeth. That the yellowishness of the affected parts of the mucous membrane was not due to icterus, was plain from the definition of most of the patches and their contrast with the other parts of the mucous membrane, which was of normal colour. The tongue was unaffected. Across the middle line of the neck, just above the thyroid cartilage, was a crescentic patch of velvety smoothness, with a satiny feel, and uniform buff or cream colour, the concavity looking upwards, about three inches in width and half an inch in depth at the middle line of the neck ; to the right of the middle line was an oblique stripe, which had no counterpart on the opposite side, and which was the only place in which the diseased condition of the skin showed a departure from the most perfect symmetry. In the flexion crease of each elbow ran two or three oblique beaded stripes of aggregated flattened papules, exactly similar to those about the outer canthi of the eyes. These stripes observed the most exact symmetry in position, length, breadth, elevation, and colour. The flexion creases of the wrist-joints were marked by thread-like streaks of buff. The normal folds and lines in both palms were streaked with tracks of buff, especially the crease which defines the ball of the thumb from the mid-palmar region. The shallow grooves on the flexor aspects of the phalangeal joints were marked with single or double transverse stripes ; the stripes were double on all the middle joints of the fingers—i.e., one stripe on the proximal and one on the distal side of the elliptical space, immediately in front of the joint. Comparing both hands, the right showed a somewhat greater number and more marked development of the stripings than the left. The interdigital webs and the lateral aspects of all the fingers were more or less

bespattered, or maculated, as it were, with irregular splashings of the buff smoothness. The nails were quite natural. In connexion with the disease, as developed on the hands, it is noteworthy that the sensibility of the affected parts was abnormal. It hurt her to grasp or handle anything in the usual way, thus she had to hold her knife, fork, or spoon very lightly; had to cut a slice of bread carefully; in using a pair of scissors, stirring her tea with a spoon, lifting a mug or cup, or wringing clothes, she was reminded of the state of her fingers by a sharp, stinging pain. There was none of the disease on the trunk, although a number of lineæ gravidarum which streaked the abdomen would have appeared to offer a favourable seat for its development, from their similarity to the thin creases on the flexor aspects of the fingers. The only place on the lower extremities which presented the disease were the flexures of the phalanges of the toes, where it appeared in transverse linear stripes, similar to those on the palmar aspects of the fingers. In no place did it appear on the extensor aspects of the joints. Nowhere did the tuberoso form of the affection appear. On the eyelids, right side of the neck, and bends of the elbows the papular form prevailed (*xanthoma papulosum*); on the front of the neck, mucous membrane of mouth, and sides of fingers, the yellow lamina, smooth and quite level (*xanthelasma*); on the palms and toes, and under the lobules of the ears, the linear form of the xanthic degeneration, which might be called *xanthoma lineare*.

She was under observation from 18th November to 23rd December, 1875. At the latter date she felt so much better that she was anxious to go home for Christmas. The points in which she felt better were that she had got rid of all pain and tenderness in the hepatic region, she was able to sleep without opiates, the irritability of stomach had subsided, her appetite had to a certain extent returned and was better than it had been for a long time prior to admission, the jaundice was much lighter, the urine paler, her strength and spirits much improved. Yet the icteric tint of the skin and urine continued highly marked, constipation persisted, and the fæces were imperfectly coloured: they had been so since the commencement of the jaundice, except on a few occasions. From the permanency of the jaundice, the smooth enlargement of the liver, the absence of symptoms of obstruction of the portal vein, and the preservation of her flesh and strength for three years, I concluded that the hepatic disturbance arose, not from cirrhosis or malignant disease, but from a chronic obstruction of the biliary outlets. The severe pains complained of in the hepatic region were probably due to over-distension of the bile ducts; they were of a throbbing character in the back, often accompanied with rigors, and darted thence downwards along the legs to the feet, were attended with an increase of bile pigment in the urine and great itching of the skin. It was remarkable how much more the pains and tenderness were referred to the posterior region of the liver than to

the front part of the organ. These severe pains, which were the cause of her seeking admission to hospital, and which had continued for five weeks before her admission, did not subside till 27th November. For about ten days after the general tenderness of the liver had abated the pain was localised in a circumscribed region in the right dorsal (scapular) line at the tenth intercostal space, extending transversely for two inches, and vertically for one and a half. A variety of remedies were used for the relief of the hepatic pains—hypodermic injection of morphia, belladonna plaster, poultices, and full doses of Battley. The pains had not the characters of biliary colic. At no time was a tumour of the gall-bladder recognised. After the hepatic pains had subsided, the jaundiced tint became distinctly less, under the use of occasional doses of scammony, calomel, and jalap; benzoic acid three grains in pill thrice a day, and the benzoate of ammonia in mixture. The latter irritated the stomach after a while, and muriate of ammonia, with dilute muriatic acid, was employed. After a variety of trials it was found that the muriate of ammonia was most easily taken by dissolving ten grains of the salt in a wine-glass of water, and drinking it off thus plain. She was under the impression that during the attacks of itching the xanthelasmic spots itched more than other parts of the skin, but she had suffered from this symptom before their appearance. I came to the conclusion that the obstruction of the biliary passages was not one which would admit of removal. The urine was on several occasions examined for tyrosine and leucine, but notwithstanding the most careful preparation and evaporation of as much as thirty ounces, I never succeeded in finding either. There was temporary albuminuria, a considerable excess of uric acid, and frequently of oxalate of lime. The laboratory note of the urine on one occasion was as follows:—K. G., urine, 15th—16th November, 1875=24 hours=67 ozs., orange-brown, faintly acid; sp. gr. (filtered), 1013; albumen, tot. quant. (56·866 grains); urea, tot. quant. (439·687 grains); phosphoric acid, tot. quant. (58·625 grains); uric acid, tot. quant. (27·13 grains). For a person suffering from chronic jaundice, her pulse was quicker than usual; its average rate, calculated from numerous observations, was 83. For a long time after admission she exhibited a great indisposition to sleep, not often observed in persistent icterus. Chloral did not agree with her, and a pill, containing four grains of monobromide of camphor produced such hallucinations as disturbed her mind for a considerable time. She imagined that she had been converted into a slab of rock which was being split up into four parts. Opium, in the form of the black drop prepared in the hospital, agreed best with her. The application of the ether spray to the patches at the bend of the elbow produced great pain, and made no alteration in the colour or prominence of the papules at the time of freezing or afterwards.

The disease of which the foregoing case is a typical example was first

mentioned by Rayer,^a figured in his Atlas, and designated by him as "Plaques jaunâtres des paupières." The next communication of importance on the subject was that of Addison and Gull,^b who published five cases of it, under the name of "Vitiligoidea." Since then it has been described under the name of "Xanthelasma" (*ξανθόν*, yellow; *ἐλασμα*, metal beaten out, a metal plate), by Erasmus Wilson; and by William Frank Smith,^c under the name of "Xanthoma"—the term adopted by Hebra and Kaposi.^d Virchow, on the grounds of its anatomical conditions, has proposed for it the name "Fibroma Lipomatodes." Almost all the information to be had on the subject in English will be found in the third volume of "Hebra's Diseases of the Skin," published by the Sydenham Society; in Jonathan Hutchinson's "Clinical Report on Xanthelasma Palpebrarum and on its Significance as a Symptom;"^e and in recent volumes of "The Transactions of the Pathological Society of London." It is observed in two forms—in the form of yellow patches and in that of yellow tubercles—macular xanthoma and tubercular xanthoma, described in Addison and Gull's communication as Vitiligoidea Plana and Vitiligoidea Tuberosa. In either form the pathological changes in the skin appear to be the same—a (fibrous) connective-tissue new growth within the corium, with deposition of granules and globules of oil in the cells and interstices of the connective tissue. The yellow colour of the new growth does not depend on the bile-pigment; it is different from that of the jaundiced skin; it may be present without jaundice, and is caused solely by the fatty degeneration. The changes in the skin are considered by the most recent observers to be histologically identical with those found in the early stages of atheroma, and, according to some, the terms atheroma of the skin and xanthelasma of the aorta are convertible.

The frequent association of xanthoma with icterus is a fact the significance of which is not readily explained. In the thirty cases of xanthoma collected by Hebra and Kaposi^f icterus was present fifteen times, in one case not appearing till the xanthoma had existed for more than a year. Hutchinson has not observed so frequent an association, as jaundice is noted as having been present in but six out of his series of thirty-six cases; and in all of these it had passed off at the time the patients came under his observation. In all his cases the disease was confined to the eyelids. It appears that few of the very well-marked cases, and especially of those in which other parts of the body besides the eyelids are affected, are unaccompanied with jaundice. Hutchinson concludes

^a *Traité des Maladies de la Peau.* 1835.

^b *Guy's Hosp. Reports.* 2nd series. Vol. VII., p. 266. 1851.

^c *Journ. of Cutan. Med.* Oct., 1869. P. 241.

^d *Dis. of the Skin.* Syd. Soc. Vol. III., p. 343.

^e *Med. Chir. Trans.* Vol. LIV., p. 171. 1871.

^f *Op. cit.* P. 350.

from his cases that xanthoma never occurs in children; the youngest patient in his series was twenty-eight years of age when the disease commenced; the average age at which it began, in ten cases, was forty-two years. One-third of his whole number were males, thus the disease would appear to be twice as frequent in the female sex (24 out of 36). He has not been able to find a single case in which it began on any other part of the face than the eyelids. In "The Transactions of the Pathological Society of London" there are to be found the accounts of five *post mortem* examinations of cases of xanthelasma. In each chronic jaundice has preceded the appearance of the disease. In Murchison's^a case the enlargement of the liver, which was considerable, was found to be due to an excessive formation of fibroid tissue, and the organ appeared to be in the early or enlarged stage of cirrhosis; the patient was a man aged forty-one; jaundice had existed a year before the xanthelasma appeared, which was confined to the eyelids. In Moxon's^b case, a man aged thirty-two, the liver was large, but lobulated finely from very early cirrhosis; there was a simple stricture of the hepatic duct. In Hilton Fagge's^c case, a woman aged forty-three, who had had jaundice continuously for seven years, the liver was in a state of cirrhosis. In Pye Smith's^d case, a woman forty-nine years of age, the liver was slightly cirrhotic, there was a calculus in the gall-bladder, and the biliary ducts were found much dilated. In Wickham Legg's^e case, the patient, a man, had been deeply jaundiced for ten months; the hepatic duct was compressed by hydatids. Appended to this latter communication is a copious list of references to authorities, British and foreign, on the subject. Xanthelasmic patches, precisely like those on the eyelids and elsewhere, have been found on the capsule of the spleen, in the mucous membrane of the dilated hepatic ducts, in the lining membrane of the left auricle, pulmonary artery, aorta, and other large arteries, on the mucous membrane of the epiglottis, the larynx, and the trachea. There are two considerations which very much increase the difficulty of understanding the connexion between jaundice and xanthelasma—one is, that numerous cases of xanthelasma, of the slighter forms, indeed, and limited usually to the eyelids, occur without jaundice; the other, that very many cases of chronic jaundice occur without xanthelasma in any form or situation. Perhaps the best way of viewing the first class of cases is that hinted at by Hutchinson in his speculations as to the cause of xanthelasma unassociated with jaundice. He says he has sometimes been tempted to suspect that xanthelasma of the eyelids (alone) stands in some relation to the temporary attacks of dusky pigmentation of those parts which is so well known to occur in connexion with temporary derangements both of liver and uterus, and

^a Trans. Path. Soc. Lond. XX., 187. 1869.

^d Op. cit. XXIV., 250. 1873.

^b Op. cit. XXIV., 129. 1873.

^e Op. cit. XXV. 1874.

^c Op. cit. XXIV., 242. 1878.

that it is just possible that it is, after all, chiefly a senile change in cell structures which have been in former times very often the seat of temporary deviations from normal nutrition. There may, also, be in this suggestion a clue to the disproportionate frequency with which xanthelasma affects the female sex. That many cases of chronic jaundice occur without xanthelasma will be freely admitted; but not the converse of the proposition, as far as the diffuse form of the condition has been observed; for general xanthelasma appears almost always to arise only in protracted cases of jaundice. Hilton Fagge considers that in these cases we have no alternative but to attribute the cutaneous affection as well as the similar changes in the mucous membranes and in the linings of the blood-vessels, to a morbid state of the blood caused by the jaundice.

The xanthelasmic patches show no tendency to disappear, but persist unchanged, or slowly increase in size; no external or internal treatment has any effect on them. Excision has been practised upon patches of limited extent with good results. The only disease with which it can be confounded is aggregated granules of milium, which may also be met with either isolated or in groups, on, or in the neighbourhood of, xanthelasma. The milium may be distinguished from xanthelasma, because the granules of milium can be very easily turned out *in toto* (little round bodies) from their nests after a superficial cut has been made into them, whilst the xanthelasma, even if the skin be wholly divided, cannot be separated from the tissue of the corium. To a casual observer the disease might appear to be located in the sebaceous glands, but these are not present on the palms or on the mucous membrane of the mouth. The unvascular condition of the patches was well exemplified in a case of Dr. Smith's* by the patient getting a severe attack of facial erysipelas, in which the eyelids stood out like white islands from the surrounding red.—*December, 1875.*

Cardiac Disease; Embolism; Cerebral Softening; Aphasia.—DR. HAWTREY BENSON exhibited specimens taken from the body of a girl, aged twenty, who died in the City of Dublin Hospital, under his care. That time three years she was, for the first time, admitted into the hospital, suffering from rheumatic fever. She was discharged well of the fever, but she carried away with her aortic valve disease. In January, 1875, she was admitted again under the care of his colleague, Dr. Finny, for heart disease. She improved rapidly under his care, and left the house in March. In the following May she was re-admitted, suffering from the same class of heart symptoms, and from the secondary consequences in other organs. On the morning of the 9th of August, when Dr. Finny was going round, he found her suffering from hemiplegia of the right side, involving complete loss of sense, and of the power of motion, on

* Jour. Cutan. Med. Vol. III., p. 243.

that side. On the 27th of August she came under Dr. Hawtrey Benson's care. At that time she had very extensive eccentric hypertrophy of the heart, with the double basic bruit and the collapsing pulse indicative of permanent patency of the aortic valves. There was perfect paralysis of the right arm and leg as regards both sense and motion. From these symptoms, and from the history of the case, he expressed the opinion at the time that the paralysis was due to embolism having occurred in one of the arteries of the brain; and the artery that he said was most likely the recipient of the embolus was the left middle cerebral. He had since learned that Dr. Finny had expressed the same opinion independently. When Dr. Hawtrey Benson saw her, on the 27th of August, the aphasia was very well marked. Her ideas seemed clear, but she was utterly unable to express those ideas from inability to find words to do so. On the 12th of October she had an epileptiform seizure from which she barely recovered. Previous to the time described, she had a pulse most characteristic of aortic regurgitation, having that peculiar "sledge-hammer," collapsing beat, that occurs in this affection. This was equally well marked in both radials. However, on the 15th of November, while holding her left wrist, he (Dr. Hawtrey Benson) asked a senior student to describe her pulse, and was astonished to hear him characterise it as weak and scarcely perceptible. But on putting his hand to her right wrist he found that his (the student's) description was critically correct. The pulse had not been so the day before, but had been exactly the same as the left.

In explanation of this he (Dr. Hawtrey Benson) expressed the opinion at the moment that an occurrence had taken place in some spot of the vessel intermediate between the wrist and the innominate artery, exactly similar to what he believed had taken place in the left middle cerebral artery, and that an embolus would be found to have almost, but not completely, stopped the current of blood. Following out this expectation, he traced the feeble pulse upwards till he reached a spot where the pulse suddenly became as strong as on the left side, and resumed its remarkably collapsing character. This spot was situated precisely where the axillary artery changes its name to brachial, at the lower border of the tendons of the *teres major* and *latissimus dorsi* muscles. At this spot the transition from the strong collapsing pulse above, to the weak thready pulse below, was abrupt, and the line of demarcation sharply defined. Here, doubtless, the embolus was lodged. A few days ago she got an attack of bronchitis, with rapid effusion into the bronchial tubes, and sank.

On *post mortem* examination he found an extreme degree of disease of the aortic valves. There were vegetations of all sizes attached to the valves, and one of the valves was almost entirely disintegrated. The vegetation extended a little into the ventricle itself, of which there was enormous hypertrophy and dilatation. One of the sinuses of Valsalva

had become dilated into a well-marked aneurismal pouch, capable of concealing a small pigeon's egg, and so situated that, had the patient lived till the aneurism gave way, it would have established a communication between the aorta and the infundibulum of the pulmonary artery, and have complicated matters by giving rise to cyanosis.

When he came to examine the brain he found, as he had expected, embolism of the left middle cerebral artery. The hard knot-like substance could be very easily seen and felt distending the artery, when the latter was raised out of the fissure of Sylvius on the handle of a scalpel. The distal portion of the artery presented a white, cord-like, contracted appearance, as if no blood had passed through it for a long time. But at its bifurcation, half an inch beyond the embolus, there was evidence of blood having been recently in each fork, as if the anastomosis had allowed a certain amount of blood to pass up one branch, by a reversal of the current, and down the other, in its proper direction, leaving the half inch of artery between the embolus and the bifurcation without any blood whatever.

When the brain was turned over advanced and extensive white softening was apparent. This disease involved the greater part of the left hemisphere, including large tracts of the posterior, middle, and anterior lobes; the disease in the posterior portion of the latter lobe fully accounting for the aphasia, according to the theories of Broca and Hughlings Jackson. Advanced atrophy, as well as white softening, was also well marked in the left side of the pons Varolii, and in the corpus striatum and optic thalamus of the same side. A large portion of the left hippocampus major and of the tænia hippocampi were occupied by a circumscribed extravasation of blood, which had all the appearance of not having been effused very recently. This effusion he (Dr. Benson) had no hesitation in thinking took place at the time of the epileptiform seizure on the 12th of October, and was doubtless the cause of the latter.

If that strong probability were true, it afforded, when contrasted with the character of the attack on August 8th, an interesting corroboration of recent observations on the difference in the symptoms produced by a lesion of the central portion of a hemisphere and that of a superficial portion, as the hippocampus major may be considered. The former lesion has been stated to cause an apoplectiform seizure, as took place when the embolus was first impacted on the 8th of August; the latter to cause an epileptiform attack, as took place on 12th October.

Dr. Hawtrey Benson then exhibited a portion of the artery of the right arm occupied by a large embolus, situated in the spot ascertained during life, and already described.

This case the speaker considered to be possessed of interest, as it presented an unbroken chain of causes and consequences, extending over a period of three years, beginning with rheumatic fever, and going on

to endocarditis and vegetations on the aortic valves—these, in their turn, giving rise to embolisms and anæmic softening of the brain, and consequent death.

The case also showed how little one can predict what the result would be of embolism of any given cerebral artery in any given case, for, though in that case anæmic softening was the result, yet both he (Dr. Hawtrey Benson) and others had exhibited at that Pathological Society more than one case in which, during the same disease, embolism of the same artery had produced precisely opposite results—viz., a backward rush of blood from the collateral circulation into the vessels from which the *vis a tergo* had been removed by the plug, and consequent extravasation of blood—the slender vessels not being equal to the unaccustomed strain thus suddenly put upon them (according to Virchow's explanation).

The determination to either of these two opposite results would be largely influenced, he considered, by the freedom of the collateral circulation and the degree of degeneration of the arterial system on the one hand, and by the soundness of the same system and insufficient anastomosis on the other.—*December 18, 1875.*

Painful Enchondroma of the Femur.—DR. BENNETT said: The history of the case from which this specimen was obtained is the following :—A healthy man, thirty-three years of age, who had been living all his life in the country, was admitted into Sir Patrick Dun's Hospital on the 23rd of last January. He had been suffering for about three months, as accurately as we could determine the time, from more or less continued pain in the inner condyle of the femur. The time was certainly not longer than three months. He was not able to assign any cause, from injury or otherwise, for the pain which had commenced in an insidious manner. At the time of his admission no deformity of the femur could be detected; but a slight amount of synovial effusion was present in the knee, which was just enough to mask any slight deformity that might have existed in the bone previously. That synovitis subsided, but the pain continued. The pain was localised to a very small spot, less than an inch in circumference, over the inner surface of the internal condyle, and the skin there was discoloured and showed slight puffiness. Pressure on this part did not give rise to much pain; the boring, aching pain continued independent of pressure. The case progressed without any marked change during a period of two months, when the limb appeared to be appreciably wasted above the joint; the muscles of the thigh began to waste, and the pain increased continuously. From having been liable, at all events, to remissions, if not entire removal, the pain became more and more constant, and the paroxysms of it much more severe. Still, after the subsidence of the synovial swelling, very little enlargement was to be detected by the hand or eye at this period. There

was a slight enlargement of the inner condyle, but not more than one would be almost inclined to attribute to the œdema and swelling caused by the repeated application of external remedies. About the 29th of March—nearly three months after his admission—a more distinct enlargement of the inner condyle began to be detected, and the action of the joint became seriously limited. Up to this time the patient had been under the care of my two colleagues, Dr. Little and Professor M'Dowell; and the history of the case, so far as I am familiar with it up to that time, I derived from them. At that date of the 29th March the case reminded me, at least very strongly, of these two drawings, one published in the *Transactions of the Society*, from a case recorded by Dr. Cruise,* which presented some symptoms very different from this, but which was seated exactly in the same locality and exhibited an exactly similar enlargement; the second is the plate in Stanley's work representing a malignant tumour of the lower end of the bone, causing moderate enlargement downwards and inwards. By the 29th of March about as much general enlargement inside the knee could be detected as these plates would represent. The man at his first admission walked with a slight limp. Subsequently he became more and more lame, and as the case progressed he became absolutely confined to bed from the pain and distress produced by moving his knee. The motion of the joint was, in all respects, greatly hampered; at the same time we had evidence of enlargement of the inner side of the femur and of appreciable displacement of the patella, for the patella began to rotate on its long axis, so that the anterior surface began to look outwards; and it was also possible to detect the fact that the patella was raised off from the cartilage of the trochlea of the femur. This point of displacement of the patella and the distinct enlargement of the bone inclined my colleagues to the opinion that the inner condyle was the seat of either a Brodie's abscess or an abscess the result of osteo-myelitis. Relying on the change in form of the bone, on the displacement of the patella, and the diminution of the motions of the joint, I inclined to the diagnosis of tumour probably malignant. These seemed, then, to be the three alternatives with respect to diagnosis. The great violence of the pain, and the slow progress of the disease, were supposed to be indications of a purulent collection. On the 29th of March my colleague, Dr. M'Dowel, explored the tumour with a drill, making a very limited incision on the surface at the most prominent point of the swelling, and keeping as far back as possible in order to clear the reflection of the synovial membrane. The drill entered the bone with facility—in fact, on meeting the structure of the bone, so far from needing any pressure to impel it onwards, it suddenly plunged into the centre of it. On working round in different directions no signs of matter presented themselves. The exploring operation was then closed, and the wound

* *Path. Trans.* New Series, Vol. III., p. 98.

was put up in the ordinary way and healed with rapidity. After this the tumour grew with great rapidity. In the month of May the patient was transferred to my charge, and, although at the time of the exploratory process the diagnosis had been so doubtful, it was then quite clear that there was an enlargement or expansion of the inner condyle, in all probability the result of some form of tumour of bone. It seemed most probable that the tumour was one of a malignant character. At this time the skin over the most prominent part of the enlargement began to assume a rather livid colour, and, from the rapid growth of the tumour, to become adherent.

On the 10th May I amputated the thigh. I was forced to remove nearly half of the shaft of the femur. I kept as far up as was necessary in order that the flaps of skin might be formed without involving the discoloured portion of the surfaces, which I feared had been impregnated with the matter of the tumour. The method of amputation was that of Sédillot, and all details of antiseptic treatment were carefully carried out. The subsequent dressings were according to the antiseptic method. The case turned out an extremely rapid one. In less than a fortnight the wound was healed, and from that time the man rapidly recovered. In less than three weeks he was out of bed and began to recover flesh, having been wasted extremely by the distress of the pain previous to the operation; and he began to sleep naturally without the use of hypodermic injections. During the progress of the case those injections had been at first applied every second night, then every night, then morning and evening, and, at last, three times a day at all events. During the first fortnight of his recovery this was kept up, as there was a certain amount of nervous excitement about the man, and he was not able to sleep readily without his accustomed sedative; but as soon as he got to be able to move about all sedatives were given up without any trouble. The examination of the tumour is of considerable interest. The drawings exhibited, executed while the specimen was still fresh, show perhaps even better than the preparation of the tumour the condition of affairs; the tumour has been, to a certain extent, cut up for the purpose of investigating it. We find enlargement of the inner condyle of the femur projecting downwards and inwards. The enlargement, on removal of the soft tissues, seems to be not an expansion of the bone, as in the cases displayed by the plates of Stanley and Cruise, but a development of an irregular lobulated tumour from the surface of the bone. The tumour extends along the edge of the articular cartilage, overlapping, but not involving it, and we can raise the tumour off the cartilage from its border. It extends in front as far as the outer border of the trochlea, and is narrower and smaller as it crosses the anterior surface of the bone. There is a similar prolongation which follows exactly the border of the articular cartilage backwards and passes round, filling the notch between the condyle, and lastly pro-

jects as a distinct rounded knob through the inter-condyloid notch. Such is the external distribution of the tumour. A remarkable feature is the way it spares the articular cartilage, following the border of it in its growth, starting at the centre of the internal surface of the condyle and extending all round so as to envelop it. On cutting the bone up to the centre of the tumour you see—as the drawing also shows—this remarkable induration of the cancellated tissue of the inner condyle of the femur. The cancelli are infiltrated irregularly with dense tissue, apparently osseous, which passes in an irregular wave line to the surface of the bone. In the recent state the bone beyond the limit of the infiltration was highly vascular. The infiltration extends up the medullary canal of the bone. We lose it gradually, and it is not possible, looking at the bone, to discover that any portion of it has been removed by erosion or absorption. The most remarkable appearance is presented by the part directly underlying the oldest part of the tumour. On the face of the section made by the saw it presents an almost ivory-like polish at all but one part. The part which underlies the oldest portion of the tumour, where the exploratory operation acted, is disintegrated and broken down. The tumour itself is soft. Part of it is composed of fibroid growths mixed with gristly substances, in many cases excavated almost into cysts in the tissue of the tumour. This appearance in older days would have led to the naming of the tumour as a cystic osteo-sarcoma. In some parts the appearance is such as to justify the application of the name of cystic disease to the tumour. A microscopic examination of the soft part shows that it is unmistakably an enchondromatous tumour. The existence of abundant fibrous septa, enclosing the lobes and dividing the more gelatinous parts of the growth, indicate that the growth is of the variety known as mixed enchondroma. The cartilaginous elements are mixed with and have fibrous tissue through them. One portion of the old part appears to be undergoing the change known as calcification. To the naked eye there appears to be an out-growth of bone passing into the tumour, but in reality all new earthy matter is deposited as calcification of the cartilage of the enchondroma, not as bone. A more difficult part of the disease to examine is the structure of the bone itself; and perhaps the most instructive part of this examination is that which is furnished during the process of making a thin section of it for the microscope, without previous removal of earthy matter. On grinding a thin section taken from the point where there is most eburnation, the section thins rapidly until it is nearly clear enough for examination, but at last the hard eburnate matter begins to fall out of the remains of the cancelli of the bone. The network of bone is in many places all but gone, and is everywhere so impaired by the disease that it is difficult to obtain a thin section of it. The infiltrated structure falls out and grates as it works on the stone. You can see the white dust which is caused by this deposit

as it washes out and dries on the stone. An examination by the microscope shows that the cancelli of the bone has been infiltrated by enchondromatous matter which has undergone calcification in many parts, while in other parts it presents examples of true ossification. There is every gradation between evident calcification similar to the soft part of tumour up to true bone cells. The original cancelli of the bone have been removed by absorption—completely in some places, in part in others.

There are some practical points of great importance in reference to the diagnosis of this tumour. It is rare to meet with an enchondroma at an age so advanced, even as that of this man. They have been known to occur so far on in life as sixty years; but still this case is, in a marked degree, exceptional. Again, it is extremely uncommon to find enchondromatous tumours setting in with persistent and violent pain. A great feature in this case was the severity of the pain, which pointed in a marked manner to the diagnosis of an abscess within the tissue of the bone—of the abscess known as Brodie's. But if we compare the course of a Brodie's abscess with that of this tumour, we find that the progress of the former is much more prolonged. The shortest case on record of a Brodie's abscess ran to some fourteen months, whereas the average duration of the cases extends over many years. Again, the Brodie's abscess has a history which dates from the time of the existence of the epiphysis as a separate structure. These two points, the rapidity of the progress, and the late date of commencement, in my mind, completely set aside the diagnosis of a Brodie's abscess. The only other alternative supporting the theory of an abscess was the supposition that there was a localised necrosis or an osteomyelitis of the bone, the result of injury. But the absence of any known injury excluded the diagnosis of such disease. Lastly, the impairment of the motions of the knee-joint weighed heavily against the diagnosis of abscess, particularly of Brodie's abscess, which to me appeared to be excluded by the enlargement of the condyle and displacement of the patella, and the loss of motion. I confess I inclined to the diagnosis of malignant tumour, encephaloid cancer or sarcoma expanding the bone. The leading feature of the case, the pain, certainly led my ideas of the nature of the case before operation far away from the diagnosis of an enchondroma, which this is unmistakably proved to be by microscopic examination—a most important fact for the patient, for his future prospects are now most favourable.—*December 18, 1876.*

CLINICAL RECORDS.

MEATH HOSPITAL, DUBLIN.—*A Case of Acute Enteric Fever, with Peritonitis and Dissolution of the Blood.* By J. W. MOORE, M.D., Dubl.; Fellow and Censor, K.Q.C.P.; Physician to the Hospital.

THE following case, from the rapidity of its course, its resistance to treatment, and its disastrous effects on the organism, might with propriety be described as one of *febris typhoides siderans*, or *blasting enteric fever*. Unfortunately, it does not stand alone in the annals of the death-rate of Dublin during the past few months, for to an equally malignant attack of the same form of fever an able member of the profession lately succumbed after a few days illness.

George M., a servant, aged sixteen years, residing in one of the most fashionable streets in Dublin, complained of loss of appetite, weakness, and prostration towards the end of last March. He continued to work as usual until Tuesday, April 4, when he was attacked by severe pain in the stomach. The bowels were at this time confined. For this he took pills, which acted freely; diarrhoea supervened. There was no headache, but he remained sleepless from pain for two nights. Shivering occurred on the morning of April 5, and was quickly followed (at 11 a.m.) by copious perspiration. He was admitted to the Meath Hospital on the evening of Thursday, April 6. At that time his pulse was 105, respirations were 24, and temperature (in the axilla) was 103·6°. Hypodermic injection of morphia secured for him a tolerably quiet night.

April 7 (4th day).—9 a.m. Pulse 106; resp. 26; temp. 103·0°. His face was clear and intelligent-looking, although it wore an anxious look. His eyes were bright; pupils not dilated. The tongue was heavily coated with a creamy yellowish fur. The bowels had moved three times in sixteen hours. Bilious vomiting had set in this morning. There was great tenderness on pressure in the ileo-cæcal region, with some tympanites. No rose-spots could be discovered. The heart was acting vigorously.

Treatment.—Milk and lime-water; ice; local depletion by means of four leeches applied over the ileo-cæcal valve; poultices to the abdomen. A diaphoretic mixture, containing spirit of nitrous ether and spirit of chloroform, was also ordered.

In the evening the temperature had fallen to 100·3°, but his general condition was unchanged.

April 8 (5th day).—He spent a restless night, with much pain, diarrhœa, and bilious vomiting. There were five fluid motions during the night, and the vomiting was frequent and distressing. The bile was of a bright green colour. My colleague, Dr. A. W. Foot, saw him with me in consultation, and recommended the following mixture to allay vomiting, to check the evident acidity of the stomach, and to prevent septic changes in the intestinal tract:—

R.—Sodii sulpho-carbolat., gr. 180.

Sodæ bicarbonat., gr. 120.

Tinct. aurant., ʒss.

Infus. calumbæ, ad ʒviij. M.

Fiat mist. Signa: "Two tablespoonfuls every third hour."

In the evening the temperature had again risen to 103°, while the pulse had fallen to 90, and the respirations to 22. Both diarrhœa and vomiting had ceased. But the face was assuming an icteroid tinge.

April 9 (6th day).—9 30 a.m. Pulse, 95; resp., 22; temp., 100·8°. He had complained of great abdominal pain at times since yesterday. It was relieved by diligent poulticing and hypodermic injections of morphia. The vomiting had not returned, but he had passed one large motion, fluid in consistence, and exactly the colour of a hard boiled egg—that is, bright yellow. The colour was probably due to the action of the alkali in the mixture given above. He was ordered strong beef-tea and four ounces of port wine, as the heart, although acting forcibly, seemed far from strong. Hemlock poultice was kept applied to the abdomen. Towards evening his state changed for the worse, the pulse rising to 112, respirations to 30, and temperature to 102·5°. His mind was perfectly clear, but he suffered great pain except when slightly under the influence of morphia.

April 10 (7th day).—9 30 a.m. Pulse, 106; resp., 30; temp., 102·3°. Incessant diarrhœa commenced during last night; there were eleven motions, and general peritonitis was now clearly present; intense pain was complained of over both liver and spleen, and the knees were drawn up. His face was slightly jaundiced, and wore an anxious expression. The heart was still acting forcibly, but the pulse was weaker. On Dr. Foot's recommendation I resolved to bring him fully under the influence of opium. Accordingly, he was ordered half an ounce of this mixture every hour, while necessary:—

R.—Extract. opii liquid., min. 80.

Succ. Conii, ʒj.

Spt. chloroformi, ʒjss.

Aquæ cinnamomi, ad ʒiv. M.

Fiat mistura.

The abdomen was covered with oiled silk over lint soaked with a liniment of equal parts of laudanum and soap liniment. 5 p.m.—Pulse, 122; resp., 24 (jerky); temp., 102.7°. He had three doses of the opium mixture, and four ounces of port wine since morning. He was free from pain, having slept at times; the bowels had been quiet; his face was flushed; he drank milk freely.

April 11 (8th).—9 30 a.m. He was now terribly ill. About 7 a.m. a sudden weakness seemed to come over him, and vomiting set in at 8 a.m. The vomited matters were like coffee-grounds. Both sounds of the heart were lessened, and its action was very rapid—144 beats a minute. It was the foetal heart. The pulse was almost imperceptible, and the extremities were becoming cold. The respiration was “jerky;” the diarrhoea had returned; the skin was livid about the axillæ and the other more vascular parts, while it was of a dirty yellowish tint generally; there was extreme tympanites, with incessant vomiting of “coffee-ground” fluid. This continued almost to the time of his death—namely, 4 p.m.

The abdomen was examined after death. At the examination it was noticed that many parts of the body, although not dependent, were almost black in colour. A large quantity of dark fluid blood poured from the nose and mouth on turning over the corpse. There was intense and general peritonitis. The liver, of the usual size, was covered with layers of recent lymph; it was of a bluish-black colour, and on section seemed softened and broken down. The great omentum and the mesentery were hyperæmic, and lymph was effused along the course of their smaller vessels. The cavity of the peritoneum itself was filled with a thick, almost fæcal-looking, lymph fluid. The folds of the small intestine were glued together by recent lymph. Peyer’s patches were intensely injected, and generally prominent.

Such are the brief notes of this lamentable case. As regards the etiology, it was ascertained that the lad slept in a room in the basement storey of his master’s house, near a defective drain, from which a foul smell proceeded at times. Rats used frequently to find their way from the drain into the house. It is also to be noted that his master had a year previously suffered in the same house from an attack of continued fever, which had placed his life in jeopardy. From a purely clinical point of view the case is instructive from its malignancy, and the occurrence of peritonitis and of dissolution of the blood. The peritonitis appears to have been caused rather by propagation of inflammation by continuity from the intestinal mucous membrane to the peritoneum than by perforation. Dissolution of the blood was indicated by the occurrence of (hæmatogenous) jaundice, and of hæmatemesis, and after death by its dark colour and fluidity. The case was an example of the *Bilious Fever*

of Pringle* (1750), and of Ruttty (1770)—the *Febris Biliosa Putrida* of Selle (1770); and from its mode of origin it well deserved the name of *Pythogenic* (Murchison). A tabular synopsis of observations on the pulse, respirations, and temperature is appended.

CASE OF GEORGE M., aged 16.

Day of Disease	No. of Motions	MORNING			EVENING		
		Pulse	Resp.	Temp.	Pulse	Resp.	Temp.
III.	2	—	—	°	105	24	103·6
IV.	3	106	26	103·0	108	25	100·3
V.	5	106	30	101·3	90	22	103·0
VI.	1	95	22	100·8	112	30	102·5
VII.	11	106	30	102·3	122	24	102·7
VIII.	3	144	27	100·8	—	—	—

REDUCTION OF A DISLOCATED CERVICAL VERTEBRA.

At a meeting of the New Haven (U.S.) Medical Association, Dr. Bacon related the following case of injury to the cervical vertebra:—A child about four years of age had received a blow on the back of the neck by a croquet-mallet about ten days before. It was stunned and made somewhat dizzy by this. These effects passed away in a few days, when it was pushed off a sofa. Four days after this accident it was brought to Dr. Bacon. The neck was stiff, the head immovable, the chin projected forward and upward; and the nucha in the region of the third or fourth vertebra was concave and projected forward. There was dysphagia. The movements of the body were slow, though there was no paralysis. It was clear that there was partial dislocation, at least, of the third or fourth cervical vertebra. The parents were informed of the danger attending reduction. Chloroform was administered. The head was extended, flexed forward, and slowly rotated, and reduction was accomplished. Splints were applied and afterwards a plaster bandage, and the child did unexceptionably well. This is the third case of reduction of the vertebral column reported to the Association by Dr. Bacon.—*N. Y. Med., Jour.* Feb.

* Cf. Murchison—A Treatise on the Continued Fevers of Great Britain. Second edition. 1874. Page 419.

SANITARY AND METEOROLOGICAL NOTES,

Compiled by J. W. MOORE, M.D., F.K.Q.C.P.

VITAL STATISTICS

*Of Eight Large Towns in Ireland, for Four Weeks ending Saturday,
March 25th, 1876.*

Towns	Population in 1871	Births Registered	Deaths Registered	DEATHS FROM ZYMOTIC DISEASES							Annual Rate of Mortality per 1,000 Inhabitants
				Small-pox	Measles	Scarlet Fever	Diphtheria	Whooping Cough	Fever	Diarrhoea	
Dublin, -	314,666	702	818	—	8	17	1	28	22	8	33·8
Belfast, -	182,082	577	385	—	—	11	3	7	6	4	27·5
Cork, -	91,965	176	246	—	9	4	1	6	9	4	34·8
Limerick, -	44,209	113	127	—	—	1	—	10	4	3	37·4
Derry, -	30,884	65	34	—	1	4	1	—	—	—	14·3
Waterford, -	30,626	64	51	—	—	—	—	—	2	—	21·6
Galway, -	19,692	42	49	—	—	—	—	—	1	—	32·3
Sligo, -	17,285	45	25	—	—	—	—	—	1	—	18·8

Remarks.

An exceedingly high death-rate prevailed in Limerick, Cork, Dublin, and Galway. The rate was also high in Belfast, but low in the remaining towns. In London it was 23·0 per 1,000 of the population annually, in Glasgow 31·3, and in Edinburgh 25·0—thus these three cities contrasted favourably with Dublin as regards mortality. Among zymotic affections we find that scarlatina was rather fatal in Dublin, Belfast, and Derry; whooping-cough in Dublin and Limerick; and measles in Cork. Of 122 deaths from zymotics registered in Dublin, 102 occurred within the municipal boundary. The excessive mortality in this city was chiefly owing to respiratory diseases, which caused 239 deaths, including 183 from bronchitis, and 33 from pneumonia. Of the bronchitic deaths, 96, or more than 50 per cent., occurred in children under 5 years of age.

METEOROLOGY.

*Abstract of Observations made at Dublin, Lat. 53° 20' N., Long. 6° 15' W.,
for Month of March, 1876.*

Mean Height of Barometer,	-	-	-	29·544 inches.
Maximal Height of Barometer (9 a.m. on 19th),	-	-	-	30·305 „
Minimal Height of Barometer (3 p.m. on 9th),	-	-	-	28·549 „
Mean Dry-bulb Temperature,	-	-	-	40·1°
Mean Wet-bulb Temperature,	-	-	-	37·7°
Mean Dew-point Temperature,	-	-	-	34·5°
Mean Humidity,	-	-	-	80·6 per cent.
Highest Temperature in Shade (on 3rd),	-	-	-	57·3°
Lowest Temperature in Shade (on 19th),	-	-	-	28·2°
Lowest Temperature on Grass (Radiation) (on 19th),	-	-	-	25·0°
Mean Amount of Cloud,	-	-	-	59 per cent.
Rainfall (on 23 days),	-	-	-	2·158 inches.
General Direction of Wind,	-	-	-	W. and N.W.

Remarks.

This was the most inclement March which had been experienced in Dublin since the year 1867, when snow and hail fell almost daily during three weeks. The mean temperature of the month just past was only 40·1°, or 3·6° below that of November, 0·8° below that of December, 2·8° below that of January, and 1·6° below that of February, of the past winter. Strong S.W. or W. winds prevailed at first. On the 8th a most remarkable depression of the barometer travelled in from the Atlantic and crossed the British Isles. The barometer stood at 27·940 ins. at Wick at 6 p.m. of the 9th, and readings were below 29 ins. all over the United Kingdom for nearly two days. On the 12th another very deep depression traversed the S. of England, causing violent gales and heavy snow-storms. The centre passed over London at 0·45 p.m., when the barometer read 28·430 ins. there; and so rapidly did the disturbance travel that its centre had reached Holstein by 6 p.m.—the velocity being, therefore, 70 miles an hour. Strong N. winds were subsequently experienced, and cold weather continued almost to the end of the month. Snow or sleet fell in Dublin on the 7th, 8th, 9th, 16th, 17th, 18th, 20th, and 21st. Hail fell on the 1st, 6th, 7th, 8th, 10th, 12th, 15th, 16th, 19th, and 22nd. A thunder-shower occurred at 3.30 p.m. of the 12th. Lunar halos were seen on the 4th and 30th.

PERISCOPE.

Edited by G. F. DUFFEY, M.D., F.K.Q.C.P.

INTERNATIONAL MEDICAL CONGRESS, PHILADELPHIA, 1876.

THE International Medical Congress will be formally opened at noon, on Monday, the 4th day of September, 1876, in the University of Pennsylvania. The Sections will meet daily to the 9th inclusive. Discussions on scientific subjects will be opened in the Sections as follows:—

Section I. *Medicine*.—I. Typho-malarial Fever; is it a Special Type of Fever? II. Are Diphtheritic and Pseudo-membranous Croup Identical or Distinct Affections? Reporter, J. Lewis Smith, M.D., Physician to the New York Infants Hospital. III. Do the Conditions of Modern Life favour specially the Development of Nervous Diseases? IV. The Influence of High Altitudes on the Progress of Phthisis.

Section II. *Biology*.—I. Microscopy of the Blood. II. The Excretory Function of the Liver. III. Pathological Histology of Cancer. IV. The Mechanism of Joints.

Section III. *Surgery*.—I. Antiseptic Surgery. II. Medical and Surgical Treatment of Aneurism. III. Treatment of Coxalgia. IV. The Causes and the Geographical Distribution of Calculous Diseases.

Section IV. *Dermatology and Syphilology*.—I. Variations in Type and in Prevalence of Diseases of the Skin in Different Countries of Equal Civilisation. II. Are Eczema and Psoriasis Local Diseases, or are they Manifestations of Constitutional Disorders? III. The Virus of Venereal Sores; its Unity or Duality. IV. The Treatment of Syphilis with Special Reference to the Constitutional Remedies appropriate to its various Stages; the Duration of their Use, and the Question of their Continuous or Intermittent Employment.

Section V. *Obstetrics*.—I. The Causes and the Treatment of Non-puerperal Hæmorrhages of the Womb. II. The Mechanism of Natural and of Artificial Labour in Narrow Pelvis. III. The Treatment of Fibroid Tumours of the Uterus. IV. The Nature, Causes, and Prevention of Puerperal Fever.

Section VI. *Ophthalmology*.—I. The Comparative Value of Caustics and of Astringents in the Treatment of Diseases of the Conjunctiva, and the Best Mode of Applying them. II. Tumours of the Optic Nerve. III. Orbital Aneurismal Disease and Pulsating Exophthalmia; their Diagnosis and Treatment. IV. Are Progressive Myopia and Posterior

Staphyloma due to Hereditary Predisposition, or can they be induced by Defects of Refraction, acting through the Influence of the Ciliary Muscle?

Section VII. *Otology*.—I. Importance of Treatment of Aural Diseases in their early Stages, especially when arising from the Exanthemata. II. What is the Best Mode of Uniform Measurement of Hearing? III. In what Percentage of Cases do Artificial Drum-membranes prove of Practical Advantage?

Section VIII. *Sanitary Science*.—I. Disposal and Utilisation of Sewage and Refuse. II. Hospital Construction and Ventilation. III. The General Subject of Quarantine, with Particular Reference to Cholera and Yellow Fever. IV. The Present Condition of the Evidence concerning "Disease-germs."

Section IX. *Mental Diseases*.—I. The Microscopical Study of the Brain. II. Responsibility of the Insane for Criminal Acts. III. Simulation of Insanity by the Insane. IV. The Best Provision for the Chronic Insane.

The Reporters on each question will be men of mark in the various branches of the profession in the United States.

PUERPERAL FEVER.

As a prophylactic measure Dr. J. H. Miller (*N. Y. Medical Record*, August 3, 1875) regards it of the utmost importance that a speedy contraction of the uterus should follow delivery. By such contraction the mouths of the uterine veins are securely closed, and there is accordingly much less danger of any absorption of any poisonous material. With this end in view he advises the administration of the fluid extract of ergot in half-drachm doses thrice daily for the first three days, and twice daily for ten days longer. With the same idea of preventing any poisonous absorption he occasionally washes out the vagina with tepid water containing a small amount of carbolic acid. He also advises the free use of a weak carbolic-acid solution on napkins about the genitals. As an abortive treatment of threatened puerperal disease, he believes strongly in quinine. He administers it as soon as the very earliest manifestations of the disease are detected. Ten grains every four hours are sufficient, in his opinion, to produce the re-appearance of favourable symptoms within twenty-four hours.

SOLUTION OF BROMINE AS A DRESSING.

A VALUABLE stimulating application is obtained by dissolving two drachms of bromine in a pint of water. The use of bromine in a dilute form is rather a novel method, and it seems to offer some advantages.

KAPOSI ON THE PATHOLOGY OF HERPES ZOSTER.

THE following case, which recently came under Kaposi's observation, is reported by him in a paper "On the Etiology of Herpes Zoster," and tends to bear out v. Baerensprung's theory that the seat of lesion in this disease is the ganglion on the posterior roots of the spinal nerves. A man, aged fifty-four, was admitted under Professor Dittel, suffering from stricture of the urethra and false passage. A few days afterwards he became affected with herpes zoster in the right inguinal region, the vesicles extending from within one inch and a half of the spine to one inch of the symphysis pubis, right over the crest of the ilium. Before this attack had cleared away, he was seized with uro-pyæmia, from which he died. On *post mortem* examination, the spinal cord was found somewhat swollen for about one inch and a half, corresponding to the fourth and fifth lumbar vertebræ; there was redundancy of the upper lumbar portion and slight hyperæmia of the membranes. On microscopic examination nothing abnormal was found beyond slight hyperæmia. The ganglia on the left side were quite healthy. Those on the right side, however, were distinctly enlarged, were hard to the feel, and their firm, adherent, adipose covering was difficult to remove. The nerves connected with them, both afferent and efferent, were perfectly healthy. The microscopic examination of the twelfth dorsal and the five lumbar ganglia revealed alterations which were more fully marked in the second and third lumbar, less so, but still distinctly, in the twelfth dorsal and first lumbar, and but slightly in the fourth and fifth lumbar. The adipose tissue immediately investing the ganglion cells was beset with large, brownish-black, irregular, opaque masses, which proved to be hæmorrhages, in which some of the blood-corpuscles had become blanched and pigment granules were lying about, and which extended as far as the ganglion cells themselves. Distended vessels, in places varicose, passed in and out through the nerve cells; and here and there some red corpuscles were seen to have escaped from them. The hæmorrhages and hyperæmia were for the most part confined to the adipose tissue and the nests of the nerve cells; the anterior roots were perfectly free, and the intra-ganglionic fibres presented nothing abnormal beyond the occasional occurrence of a closely-packed vessel passing between them. The ganglion cells themselves contained an abnormally great amount of pigment, and had, in many instances, contracted, so as to leave a vacant space in their capsules. What makes this case peculiarly worthy of note is the circumstance that the bones of the spine and the parts around were perfectly healthy; and there being, therefore, nothing discoverable to account for the disease in the ganglia, we are compelled, in accordance with our present knowledge, to regard the condition as primary or idiopathic.—*Wiener Med. Jahrbücher*, 1876. I.

R. J. H.

ATROPIA POISONING SUCCESSFULLY TREATED BY MORPHIA.

HEDLER gives the case of a child, a year and a half old, who drank a weak solution of the sulphate of atropia; taking something less than .03 grammes of atrop. sulph. (*Berlin Klin. Wochenschr.*, 1875, and *Centralblatt*, No. 12, 1876). The first symptoms of poisoning showed themselves after four hours, by slight convulsive movements of the extremities, acceleration of pulse and breathing, and dysphagia. In spite of the internal administration of 0.01 grammes of morphia, the symptoms rose to an alarming height. The twitchings, which were at first few and weak, passed into violent tonic and clonic spasms; the pulse became too fast to be counted, and hallucinations set in. There was now injected subcutaneously two doses of .005 grammes of morphia almost consecutively. The result was brilliant; the child soon fell into a sleep lasting till morning; and although for two days there was slight evidences of poisoning by atropine, the child was then in its normal healthy condition. The morphia had left no bad results. The pupils, during the whole period of poisoning, were only dilated to one half—an observation in harmony with the fact that in very young children a full dilatation of the pupil cannot be obtained by atropia.*

J. M. F.

EOSINE, A NEW AGENT FOR STAINING.

MR. HUNT calls attention, in *The Boston Med. and Surg. Jour.*, Feb. 24, 1876, to the above new material for staining microscopic specimens, brought forward by Dr. Ernst Fischer, in the *Archiv. für mikroskopische Anatomie* (Band XII., Heft. II.). Eosine is a potash salt of tetrabrom-fluoresceine. For staining, an aqueous solution, in the proportion of one part to ten or twenty, should be prepared; of this a few drops may be added to a watch-glass full of alcohol or water; in from ten to twelve hours (often in a shorter time) the specimen may be removed and washed in alcohol or water. If acids are added to the eosine in solution, the latter is decomposed, and free eosine colouring matter is precipitated; this precipitate may be filtered out and used for forming a solution in absolute alcohol (one part to twenty or thirty); a few drops of this solution added to a watch-crystal of alcohol form the staining fluid. The free eosine colouring matter is soluble in strong alcohol, in ether and chloroform (with the addition of a little alcohol), and very slightly in water. Preparations which have been hardened in "Müller's fluid" are coloured best in the alcoholic solution of the free eosine colouring matter. If eosine is used the chromic acid of the bichromate of potash precipitates the free colouring matter. If it is desirable to use the eosine, the acid must be neutralised by the use of alkalies. Mold does not form on the solution of eosine. Muscular fibre, particularly the striated, is intensely

* Vide case described by Dr. Finny, Dublin Medical Journal. Vol. LIV., p. 38, 1872.

coloured; the axis-cylinder of medullary nerve-fibres is coloured a fine rose-colour, while the medulla remains colourless; ganglionic cells and their processes take the colour slightly, but are well defined in the deeply-coloured surrounding tissue; blood-vessels and capillaries are rendered easily perceptible in most tissues; blood-corpuscles take a dark brown colour; in organs that have undergone amyloid degeneration the amyloid substance takes a light red colour. Fresh preparations are nicely coloured in the alcoholic solution, and can thus be hardened and coloured at the same time. Fuller details as to the chemistry of eosine may be found in *The Chemical News* (Vol. XXXII., No. 830). Mr. Hunt used the alcoholic solution of the free eosine colouring matter with preparations that had been hardened in Müller's fluid. It gives, he states, very transparent specimens, and is not so vexatiously uncertain in its preparation and use as carmine, purpurine, and other red staining fluids. In decomposing the eosine, muriatic acid was used, and although the precipitate was not washed after filtration, he experienced no difficulty in obtaining good results.*

GLYCOSURIA TREATED WITH CARBOLIC ACID.

DR. GARNIER, an advocate of the doctrine of ferments, relates the following remarkable case to illustrate his view. A man consulted him on the 20th of August, suffering from diabetes, the lungs being also seriously engaged. He had formerly been a strong robust man, but now, day by day, his strength was abating, and he was losing flesh. His urine, which was clear, limpid, and very abundant, contained 12 per cent. of glucose. He was immediately put upon the treatment recommended by Bouchardat, but, in spite of all efforts to combat the disease, on the 28th the saccharimeter showed 24 per cent. of sugar. The treatment was, nevertheless, persevered in. Fruit, starchy food of all kinds, &c., were prohibited; regular exercise, the exclusive use of gluten bread, &c., were inculcated. On September 4th the saccharimeter showed 44 per cent. of sugar. By this time the patient was so disgusted with his course of treatment that he was given *carte blanche* to do as he liked, on condition that he would take two minims of the following solution in any suitable vehicle—viz., carbolic acid and alcohol, equal parts, mixed. From this time he partook freely of grapes, fruit, vegetables; he gave up gluten bread. In spite of all these infractions, on September 11th his urine only yielded 14 per cent. of sugar. On November 6th the saccharimeter gave only 2 per cent. This fortunate result is attributed alone to the use of carbolic acid, the dose of which at no time exceeded six minims per day. Dr. Garnier also records a case of puerperal eclampsia occurring before parturition, due to uræmic poisoning, and successfully treated with carbolic acid.—*Lyon Médical*. Vol. XXI., p. 10. 1876.

K. M. F.

* Eosine may be obtained in London from Messrs. Hopkins and Williams.

Obituary.

SIR WILLIAM ROBERT WILLS WILDE,

KNT., M.D., F.R.C.S.I.

ONCE more it is our melancholy duty to chronicle the death of an illustrious *confrère*—one to whom this Journal owed much of its prosperity and its fame. SIR WILLIAM WILDE, after many months of slowly-failing health, passed from amongst us on Wednesday, April 19, in the sixty-second year of his age. His death leaves a blank in our professional and social circles which can with difficulty be filled. A skilful surgeon, a most learned archæologist and antiquarian, a generous host, and a warm-hearted Irishman—such were the parts in the drama of life which it was SIR WILLIAM'S good fortune to sustain. How admirably he did so the history of his life most truly tells.

For us, his death is, indeed, a calamity. We have lost the author of the classical "Editor's Preface" to the first volume of this Journal, and the able contributor to its pages of many biographies and original communications. The first of our predecessors in the Editorial Chair, SIR WILLIAM WILDE for many years devoted his best energies to the advancement of *The Dublin Journal of Medical Science*; and it is with no little satisfaction we can say that at present it is conducted on the very lines laid down by him just thirty years ago.

The history of his eventful life should have found a place in our pages, were it not that one of our weekly contemporaries—*The Medical Times and Gazette*—anticipates the mournful duty, and merely leaves to us thus briefly to record the death of our distinguished countryman.

THE EDITORS.

April 29, 1876.

THE DUBLIN JOURNAL

OF

MEDICAL SCIENCE.

JUNE 1, 1876.

PART I.

ORIGINAL COMMUNICATIONS.

ART. XX.—*Excoriations of the Os and Cervix Uteri, with some Observations on their Diagnosis, Causation, and Treatment.* By RICHARD J. HALTON, L.K.Q.C.P.I., L.R.C.S.I., L.R.C.P.E.; Member of Obstetrical Society; Medical Officer of Kells Dispensary, &c., &c.

THE important advances made in the science and practice of medicine during the last quarter of a century have been nowhere more apparent than in that particular department that treats of the diseases peculiar to women. In truth, the knowledge gained in this respect has been so great as to amount to a complete revolution in its position with regard to other branches of our art.

This advantage has not accrued to obstetrics without many a hard struggle against that spirit of resistance to novelty which characterises the supporters of any long-established line of practice, and which is, no doubt, when kept within proper limits, of exceeding use in testing new discoveries, in hindering useless innovations, and in insisting that those who advance anything novel shall give ample demonstration of the truth and value of the propositions they uphold. The controversies that thereby originate are often exceedingly bitter, and occasionally verge on the acrimonious; but of all such controversies, surely none was ever carried to greater lengths than that which raged in reference to the class of diseases which forms the subject of the present paper.

The advocates of the speculum, on the one hand, confident in the demonstrated and demonstrable truth of their practice, were not, perhaps, as careful as they might have been to assign to that instrument its proper limits; while, on the other hand, their opponents would not admit that any advantage of any sort whatever could be gained by calling in the aid of the sense of sight to the diagnosis of a diseased state. Undoubtedly, many of them in this respect not only violated the well-established canon that no possible means should be left untried to discover the exact condition of an affected part before treating it, but also were neglectful or disobedient to the ordinary dictates of reason and common sense. It may be taken for granted now, however, that, as in most disputes concerning matters of fact and daily observation, both inside and outside medicine, the truth lay between those extreme views, and that while there was not the smallest doubt that the introduction, or rather the revival and frequent use, of the speculum was a decided and remarkable advance in the treatment of uterine affections, yet, that the constitutional side of this treatment was often overlooked or neglected by the advocates of the instrument, while it still remained by no means trifling or unimportant. To understand the immense benefit conferred on gynecological pursuits by the speculum, it is only necessary to glance for a moment at what an excoriation of the os and cervix uteri involves.

There is probably no affection of the uterine system, which does not directly threaten life, that gives rise to more distressing symptoms than this, and there is certainly not one more common. The subject of it, while often presenting the external appearance of health, lives in a miserable state of depression and low spirits. Her digestive functions are rarely otherwise than deranged; the peculiar feelings of fatigue and weariness that accompanies it renders her, if she is the mother of a family—as she commonly is—and belonging to the lower or middle classes, frequently unable to give that care and attention to her household affairs that her position imperatively demands, and this leads to various evils and sometimes grave misfortunes of a social nature which arise from this hidden source. In addition, we have the more serious symptoms, as hæmorrhage, vesical irritability, constant headache, and leucorrhœal discharges, which, in the majority of instances, are caused by or complicate those affections. It needs no argument, then, to prove that anything that will tend to their earlier diagnosis and consequent relief should be by no means neglected. It is also

well to remember that they have, unlike many other affections, no tendency to spontaneous cure, but may exist, if undiscovered, for an indefinite period to harass and distress the patient, even when they do not shorten her life by reducing her to such a state of debility as renders her an easy victim to some intercurrent affection or some contagious disease.

Having for some years past been led by circumstances to pay considerable attention to these affections, I have ventured to construct the following Table of cases, which have occurred mostly in the practice of the Kells Dispensary, and I have added thereto some remarks which I hope may be deemed not altogether inappropriate.

In looking over this Table it will be at once seen that all the patients were married women, and all but one of them had been pregnant. Indeed, I have had during a practice of twelve years only one opportunity of seeing a uterine excoriation in an unmarried woman, and she had attained to middle age. With regard to the question of age, the youngest patient was sixteen and the oldest forty-seven, but the majority of cases occurred between the twenty-fifth and thirty-fifth year. It may be added that of the whole number, seven had menorrhagia, more or less profuse, thirteen suffered from some form of leucorrhœa, while eight had no vaginal discharge whatever.

With regard to the exact situation of the excoriation, I found it limited to the posterior lip in two cases, and to the anterior in three; all the others had both lips engaged. In only three cases the diseased action seemed limited to the lips, but in all the others the cervix was implicated, as evidenced by the blocking of its canal with thick glairy mucus, and in one case it alone was affected, the uterine lips being free from disease.

It might at first sight appear that on the subject of diagnosis there was but little necessity to dwell, as once the speculum is introduced the case is clear enough, and excoriation being visible on the uterine lips, further research is, for the most part, directed to ascertain the fact that no other disease co-exists. This is undoubtedly true once the speculum is introduced, but there is a considerable number of cases where the signs of uterine disease are so obscure that there is some danger of its being overlooked, shrouded, or concealed by the symptoms it produces in distant organs. This, to a specialist, would present little difficulty, but with the general practitioner there is naturally and properly a considerable hesitation

in using instruments, even in a married woman, without a well-grounded belief that the case imperatively requires them to be resorted to. When there is menorrhagia or exhausting leucorrhœa present, which refuses to yield to ordinary treatment, there is usually ample grounds for an examination; but there are many cases where the reflex symptoms attacking the stomach or other regions are prominent, and where there is no abnormal vaginal discharge. I have known it to occur some few years since that a lady has consulted at least one eminent metropolitan physician, besides various local practitioners, for severe gastric symptoms under which she had laboured for many months without obtaining any alleviation of her trouble.^a She was afterwards readily cured on the uterine affection being recognised and suitable means adopted to remove it. That this may occasionally happen still is not, I think, impossible.

I have, therefore, particularly indicated in the Table a symptom that I have rarely found absent, and which should, when occurring in a *married* woman who has borne children, or has had an abortion or miscarriage, lead to a uterine examination, if the gastric or head affections that appear prominent should refuse to yield to ordinary treatment.^b This is a numbness of one limb, most commonly on the left side, usually commencing in the thigh and running down the leg. It is occasionally, though rarely, met with in the arm. It is a very marked and unmistakable symptom when present, some patients declaring that they cannot feel that they are touching the limb when they put their hands on it; in other cases it is accompanied by a tingling or stinging sensation as of nettles. There is also to be very frequently found distinct tenderness on pressure in the ovarian region of the affected side. If those symptoms are present in the cases specified, an examination will commonly reveal excoriation of the os and cervix. It is further to be remarked, as bearing on treatment, that the diminution and disappearance of those symptoms indicate the approach of healthy action and consequent cure, even before the local affection shows much alteration for the better.

^a The wide circulation Dr. Atthill's excellent and lucid work on "Diseases of Women," has obtained, renders such an occurrence now-a-days much less probable.

^b I have italicised married, as I think a speculum should never be introduced in the unmarried unless under pressure of the gravest necessity, as for profuse hæmorrhage manifestly endangering life or kindred causes.

A Tabular View of Thirty Cases of Excoriation of the Os and Cervix Uteri.

Age and Condition	Interval between Termination of Pregnancy and First Symptoms	Vaginal Discharges	General Symptoms	Painful or Troublesome Reflex Sensations	Result of Uterine Examination	Duration of Treatment	Result
30 Married	Two months .	Some coloured discharge	General weakness and impaired appetite, with a good deal of low spirits	Marked feelings of weakness and numbness in left arm and leg	Raspberry excoriation of both uterine lips, with white ropy mucus hanging from os	Six months .	Cured
27 Married	None . .	Some leucorrhœa	Generally out of health, with a bad appetite and very low spirits	Pain in back and numbness in right arm and leg; pain on pressure in right ovarian region; she feels sore, tired, and stiff when waking in the morning	Excoriation on both lips, with thick glairy mucus blocking the canal	More than a year	Greatly improved
32 Married	None . .	Leucorrhœa and Menorrhagia	Had an abortion at the third month, with great flow, and has since suffered from general weakness and loss of appetite	Numbness and tingling in right leg and thigh, and distinct tenderness on pressure in right ovarian region	Excoriation on both lips, with thick glairy mucus flowing down the canal	Six months .	Cured
18 Married	None . .	None noted .	Married four months; changes stopped for eight weeks, during which time she was sick in the morning; they then reappeared, not excessively	Numbness in right leg, and both feet frequently asleep; pain across from hip to hip	Excoriation on both lips of os; sound enters normal depth	Not noted .	Not noted
40 Married	None . .	None . .	Has had a miscarriage before last child was born; has suffered ever since from loss of appetite, low spirits, sleeplessness, and general debility	Numbness in limbs and considerable pain on pressure in left ovarian region	Large granular excoriation of both lips, with thick glairy mucus blocking the canal and flowing down through patulous os	Nine months	Cured
47 Widow	Some years .	None . .	Has been suffering from a sense of epigastric fulness, very oppressive, with low spirits, flushing, and habitual constipation	Numbness in leg and tenderness on pressure in left ovarian region	Excoriation of os, with glairy discharge flowing down the canal	Five months	Greatly improved
40 Married	None . .	None . .	Bad appetite, great nervousness, and depression; general break down since she had a miscarriage, previous to becoming pregnant with her last child	Great pain, burning, and numbness in left side, and numbness and tingling in both legs	Uterus slightly excoriated on both lips, with excoriation stretching up the canal	Four months	Relieved
30 Married	One month .	Some leucorrhœa	Describes her life as a martyrdom of suffering from flatulence and palpitation since the birth of her child	Considerable numbness in right leg, which goes up to her hip and back	Large raspberry excoriation on both lips, stretching up into canal	Six months .	Relieved
34 Married	Not noted .	None . .	Gnawing, aching, gastric pain and a good deal of flatulence constantly troubles her; has lost flesh	Coldness and numbness of left side and arm	Slight excoriation of os, extending up into the neck	Ten months	Cured

TABLE—continued.

Age and Condition	Interval between Termination of Pregnancy and First Symptoms	Vaginal Discharges	General Symptoms	Painful or Troublesome Reflex Sensations	Result of Uterine Examination	Duration of Treatment	Result
25 Married	None	Severe menorrhagia	Weakness and loss of appetite	Severe headache attacking her every day, and great numbness in fingers of left hand	Patulous os excoriated on both lips with thick glairy discharge flowing down the canal; sound enters 4 inches	Three months	Cured
20 Married	One month	Leucorrhoea	Appetite bad and spirits very low	Pain in the back and left side; numbness in left leg	Patulous os, with raspberry excoriation on both lips, and thick glairy mucus flowing down the canal	Three weeks	Cured
20 Married	Not noted	Leucorrhoea	Fits of weakness, with loss of appetite and very low spirits; great flatulence	Pain in back and left side; numbness in limbs, and some bladder irritability	Thick, glairy, yellowish discharge from os, with a pretty large and rather dryish excoriation on anterior lip	Five months	Relieved
25 Married	Not noted	Leucorrhoea	Debility, loss of appetite, and low spirits; feels her stomach a great trouble	Pain in right side; numbness down right leg; distinct pain on pressure in right ovarian region	Thick glairy mucus flowing down the canal of cervix; sound enters 3½ inches	Three months	Relieved
31 Married	None	Menorrhagia	Has had two abortions before last child's birth, since which she has never been well; complains of bad stomach and debility	Great pain in right side, and numbness in right arm and leg	Os excoriated, with thick glairy mucus flowing down canal, and uterus retroflexed	Three months	Cured
27 Widow	Two years and a half	Leucorrhoea	Complaining for past two years and a half of almost complete loss of appetite; the smell of food creates nausea; a good deal of debility.	Pain and numbness in left leg, going down to the foot; headache increased by exertion	Excoriation of posterior lip of os, with thick glairy mucus flowing from the orifice; uterus retroflexed	One year and a half	Relieved
35 Married	Not known	None	Last child is ten months old, but is complaining for the past ten years of low spirits and general feeling of malaise	Pain in left side and marked numbness in left thigh, going down the leg	Raspberry excoriation of both lips of os; thick glairy discharge blocking the canal	Three months	Cured
40 Married	One month	Leucorrhoea	General debility and inaptitude for exertion	Pain in back and numbness of both legs	Excoriation of both lips of os	Eight months	Relieved
40 Married	Not noted	Leucorrhoea	Very weak, appetite bad; appears sallow, with blanched lips	Pain in right side and numbness in legs	Patulous os, with excoriation stretching up into the canal	Two months	Relieved
32 Married	Not noted	Not noted	Loss of appetite and great nausea after eating; she has had six abortions	Numbness in hip, running down leg	Profuse leucorrhoea flowing from cervical canal	Not noted	Not noted

30 Married	Two years	Menorrhagia	Loss of appetite and pyrosis; the menorrhagia has been constant for past three months	Weakness of back and numbness and tingling of right leg	Large raspberry excoriation on anterior lip	One week	Not noted
35 Married	One month	Menorrhagia	Illness dates from an abortion five months ago, since when she has had the flow every nine or ten days; appetite and sleep impaired	Numbness, weakness, and trembling in her legs	Os shows slight excoriation on anterior lip, stretching up into canal	One week	Not noted
30 Married	Not noted	None	Debility, loss of appetite, and capricious appetite, with gastric gurgling; has been complaining for last two years	Numbness of legs and hands; Pain in back and sides	Both lips show rather large granulations; thick glairy discharge flowing from os	One month	Cured
30 Married	Not noted	None	Has had two miscarriages (query abortions) between last two children; suffers much from gastric derangements	Pain in back and left hip, and sensation of tingling, as if stung by nettles, in both legs	Speculum shows a small excoriation on anterior lip of patulous os, which latter is filled with glairy mucus	Two months	Not noted
21 Married	Two months	None	Has so much irritability of bladder that she is forced to get up at night	Numbness in her limbs, and feels all over sore when she awakes in the morning	Os shows slight excoriation on both lips, which are rather patulous, with thick glairy mucus flowing down the canal	One week	Not noted
26 Married	Two years and a half	Menorrhagia	Had no pregnancy after the first; had appetite and general debility, with dry retching and loss of flesh	Numbness and tingling in right leg; in morning can hardly bear on it at all	Large raspberry excoriation on both lips of os, with tenacious discharge flowing down the canal	One week	Not noted
26 Married	A week	Some leucorrhoeas	Never felt strong since birth of last child thirteen months ago, but her back has got so bad within the last month that she is now quite unable to walk; failing appetite	Numbness and creeping in her legs	Uterus natural size; sound enters normal depth; large raspberry excoriation on both lips; no discharge from cervical canal	Five months	Cured
26 Married	Three weeks	Menorrhagia	General weakness from the excessive flow, with pain in side and stomach	Numbness and tingling in right leg; occasionally, when she wakes in the morning, she feels sore all over	Uterus lower than natural; sound enters 3½ inches; speculum shows excoriation on both lips, and thick glairy discharge flowing down the canal	Four weeks	Not noted
24 Married	Not noted	None	Has had a living child, then three miscarriages, then a dead child, since which she has been ill	Pain in back and side, and a stinging sensation, as of nettles, running down the back of right leg	Excoriation on posterior lip, and patulous os, with glairy discharge flowing down the canal	One week	Not noted
42 Married	Several years	Menorrhagia	Great nervousness and shivering all over, with severe pain in back and hip; she stumbled carrying a load of oats, and the changes attacked her excessively	Right thigh numb, and tenderness on pressure in right ovarian region	No excoriation visible on os, but a patulous os, filled with tough glairy mucus	Six months	Relieved
25 Widow	Not noted	None	None noted	Pain in right side and numbness in right thigh	Speculum shows excoriation just within the uterine lips, and glairy mucus flowing down the canal	Six weeks	Not noted

With regard to causation, it will be conceded, without much difficulty, that there is hardly any pathological state which affords so many opportunities of direct observations in the human body so difficult to account for as this condition. That mechanical abrasion has anything to do with it may be taken to be effectually disproved by West's statistics, and I have remarked that in cases where I was necessitated to deliver by the forceps or turning, the women so operated on never happened to present themselves subsequently suffering from this affection, to which they would appear to be more liable had it depended in any way on attrition or bruising of the uterine lips. In considering the question, it will be remarked that in half the cases recorded in the Table, the first symptoms commenced within a month or two after labour or abortion. Out of the whole number it was ascertained that seven had had abortions or miscarriages, though there are grounds for believing that in some other of the cases where severe attacks of menorrhagia were complained of abortion had also occurred. Arising, then, after abortion or labour, and mechanical abrasion being excluded as a cause, I think that clinical observation points in the direction of an ovarian irritation, propagated, it may be, in the first place, from the uterus to the ovary, which is in its turn reacted on by this latter organ. That the ovary, at any rate, is engaged either as a factor or associate is, I think, fairly deducible from the following facts :— In the first place, the numbness is usually confined to one thigh. When I first observed this, I thought the position of the excoriation, as it was situated either on the anterior or posterior lip, might influence the symptom, but I found it did not in the least. When both lips were excoriated, and the cervical canal blocked with glairy mucus, the numbness and tingling was still confined to one thigh, most commonly the left, while there was pain on deep pressure in the pelvis confined to that side. Now, in affections of the uterus itself, its reflex sensations extend to both sides equally as the pain down both thighs at the menstrual period when the organ is enlarged or tender or that occurring in the first stage of labour; or the pain is central as in various neuralgic and cancerous affections of this organ.

What we know of that obscure affection variously designated ovarian irritation or subacute ovaritis, favours the view that the symptoms are ovarian in their origin and their similarity, as observed in both classes of cases, is sometimes remarkable. With

a view to illustrate this statement, I have introduced here the following cases of ovarian irritation in unmarried women, or women who had never been pregnant:—

Short Table of Cases of Ovarian Irritation.

Age and Condition	Menstrual History	Painful or Troublesome Reflex Sensations
Aged 20, Unmarried	Menstrual flow profuse and dark, with occasional shreds; considerable pain in back and left side; continues five days.	<i>Numbness</i> in the left thigh, extending down the leg, and very marked tenderness on pressure in left ovarian region.
Aged 22, Married	Changes come on very heavily every three weeks, with considerable pain ever since she was married.	<i>Numbness</i> in the left thigh, leg, and arm; marked tenderness on pressure in left ovarian region.
Aged 21, Unmarried	Changes come on very heavily, stay a week with considerable headache, and very obstinate vomiting, unchecked by ordinary remedies.	<i>Numbness</i> and <i>tingling</i> in right arm and leg, and marked tenderness in right ovarian region.
Aged 28, Unmarried	Changes come on every fortnight, and are very painful, followed by leucorrhœa.	<i>Numbness</i> in both arms, none in legs; tenderness on pressure in both ovarian regions.
Aged 29, Married	Twelve years married, and never pregnant; changes stay three days, but are for the last six months attended by great pain and weakness.	<i>Numbness</i> in right leg, and very marked tenderness in right ovarian region.
Aged 17, Unmarried	Changes stay five days, followed by leucorrhœa, with considerable pain, which still persists after the flow ceases, running down the <i>right leg</i> .	Distinct tenderness on pressure in right ovarian region.

It has been maintained by a distinguished Continental writer that "the physiological acts which are the principal causes of menstruation take place during gestation;" and though it has been advanced against this view that menstruation, in cases where it continues throughout gestation comes from the cervix, still that it comes regularly, at the normal periods, gives strong confirmation to Scanzoni's opinion, as undoubtedly the cervix would not be likely to secrete the fluid without a previously exciting influence which, except from the ovaries, it could not obtain. It cannot, therefore, be deemed impossible that the ovarian derangement arising during pregnancy should manifest itself at its close or shortly after in excoriations of the os and cervix. Again, it has

been advanced by a certain English writer of repute* that dislocations or flexions of the uterus stretch the broad ligaments and thus give rise to various forms of ovarian irritation. Now, if this be the case, a very legitimate explanation of their common occurrence after labour, at term, at least in the lower classes, may be found in the fact that the woman, while the uterus is in a state of subinvolution, frequently gets up and resumes her household occupations, which I have known several to do on the third day after labour, and thus produce the ovarian irritation which, in its turn, produces the excoriation.

In abortions, also, the natural enlargement of the uterus at the third or fourth month might act as an ovarian irritant, if the broad ligament or ovaries were unable, from some constitutional weakness or acquired irritability, to accommodate themselves to the strain thereby produced. The occasionally successful results of treatment in tiding over this dangerous period, by keeping the patient in the recumbent position, might be thus accounted for, as well as the sedative treatment by potash preparations, which could hardly be expected to affect much change in the uterine structure within the short time it is ordinarily given. Abortion might consequently be viewed as being rather produced by the antecedent ovarian irritation than causing it; and the many nervous phenomena that accompany it, so much more numerous and striking than those observed in natural labour, would tend to support this view. As an instance, the fainting fits that are often so frequent, and are commonly attributed to profuse loss of blood, may be mentioned. I have seen them occur with great frequency when the loss of blood was very small, and in many cases of abortion the rapidity with which the patient recovers her health and complexion would seem incompatible with excessive hæmorrhage. I have observed universal itching affecting every portion of the skin to occur after abortion without a trace of any eruption or cause in the skin itself to account for it, so severe as to prevent sleep and requiring morphia subcutaneously administered for its relief; and it is interesting to compare this with some cases in the Table where a universal feeling of soreness was a common morning symptom.

It would not then appear unreasonable to suppose that in their causation uterine excoriations bore a certain relationship to the excoriations so often met with at the outlet of other mucous canals in the body, of which those so commonly occurring at the anterior

* Rigby.

nares consequent on intestinal irritation from worms, and those occurring at the orifice of the male urethra from vesical irritation, are familiar examples. It derives, also, some support from the fact already mentioned, that until the reflex symptoms diminish the local treatment has little effect, and it would also go some distance to explain the rebellious nature of some uterine excoriations of which, while they appear perfectly similar to the eye, one will heal up in a month, while the other will remain almost unaltered under treatment for six. If the truth of these views was established, it would by no means render local treatment of less value, for it sometimes effects a cure with magical speed, and rarely, if ever, fails to give substantial relief. Indeed, the sedative effect of nitric acid is very marked in uterine affections generally, for I have seen it of great service when applied to the canal of the cervix in a case of malignant ovarian disease where pain was the prominent symptom, and where no excoriation was visible.* It is also in other painful uterine affections most valuable as an internal medicine given in combination with opium, and seems, while in no degree interfering with its soothing properties, to materially modify its ordinary inconveniences.

It will surprise no one with much experience of dispensary practice that the *ascertained* results of treatment were in many cases far from satisfactory. Of the whole number the complete history was only recorded in ten cases. Every one of these resulted in recovery. With regard to time, the longest under treatment was ten months, the shortest three weeks; of the ten relieved, the longest under treatment was a year and a half, the shortest two months; and it may be said with reference to these that many of them were probably cured, but not having presented themselves at the specified time for examination to ascertain their state, they had to be recorded by the more doubtful phrase. Of the number not noted the large majority only presented themselves once, there being to this only two exceptions, one of whom attended for a month and the other for two. While some of the cases were troublesome and tedious in the extreme, there were others which were very gratifying—as, for example, one of the patients assured me that for ten years she had not known what

* Dilute nitric acid was injected into the uterus many years since by Ricord for the cure of excoriations of the os and cervix. As it could have little effect so diluted as a local application, it may be a question whether some of the benefit it produced did not arise from its absorption.

the sensation of health meant until she was treated. This woman was the mother of five children, and had never had any abnormal vaginal discharge. Her symptoms were all referred to the stomach. As hindrances to treatment, I have no doubt that, in addition to the irregularity in attendance caused by severe weather and other circumstances—which I must confess to having had an occasional unavoidable share in—the five or six miles which many of the poor patients were obliged to walk to and from the dispensary materially delayed in many cases a successful result.

The treatment adopted was that which has had its origin in the Dublin School,* and which has, notwithstanding, considerable opposition from other quarters—opposition which, it may be remarked, sometimes overstepped the boundary of politeness or even of pathological good sense, gradually obtained the approval of the majority of the profession. It consisted in reducing local congestion by local means and touching the excoriated surface with the strong nitric acid. This was always carried into the cervix when that appeared diseased, and the acid brought in contact with the whole surface of the canal, and even to the fundus if necessary.^b It never gave rise to the slightest symptom of danger or distress, and in the vast majority of instances was altogether unfelt. When pain did occur its amount was so trifling as to attract little notice from either the patient or physician. Astringent injections were found to be of little use, and whether this was from the patient's awkwardness in managing them or not, they have been latterly dispensed with altogether, and their place supplied by the tannin, pessary, or bougie, placed in contact with the os or introduced into the canal. The skin of the abdomen has been leeches or blistered as seemed most suitable over the tender spot in the region of the ovary with very marked benefit. When much leucorrhœa was present small blisters to the sacrum were found serviceable, while ergot and Indian hemp were useful internally, particularly when hæmorrhage was present, but, undoubtedly, the most generally effective drugs were strychnine in small doses in combination with dilute nitric acid. To these was added some form of tonic, and if local treatment was from any cause inadmissible, this mixture, I

* Ringland.—Kidd. *Dub. Journ. Med. Science*, Feb., 1869.

^b It is by no means necessary in all cases to dilate the os before touching the interior of the uterus with nitric acid. In many cases where this becomes necessary, the canal of the cervix is sufficiently patulous to admit the stilette covered with cotton wool soaked in this agent.

think, would afford the best chance of relief. The following is the formula used:—

Liquor of strychnine, one drachm and a half.

Dilute nitric acid, two drachms.

Tincture of gentian, half an ounce.

Hoffman's liquor, three drachms.

Water to eight ounces. Mix.

The dose is one tablespoonful thrice daily before meals. If pyrosis is present, which it sometimes is, even in our tea-drinking peasantry, a drachm and a half of sedative liquor of opium added to the above for a week or two, taking care to regulate the bowels with suitable aperients, will be found serviceable. In the general directions it was not considered advisable to interfere with marital relations, except in case of serious hæmorrhage, and while the value of exercise and fresh air was sufficiently impressed, they were enjoined to avoid standing or kneeling as much as possible.

ART. XXI.—*A Case of Enteric Fever.** By ALBERT A. GORE, M.D., Surgeon-Major, Military Prison Staff and Departments, Dublin.

It has been laid down as a sanitary axiom by the late Professor Parkes that "a single case of typhoid fever should at once be held to prove something is wrong with the mode of getting rid of the excretions, and that if neither the water nor sewers can be proved to be in fault, the milk or other food supply must be considered as the source of the evil." In the vast majority of instances I believe that the truth of this precept is firmly established, but that there are other modes by which the disease may be generated in an individual, is, I think, equally clear. The case, the particulars of which are briefly epitomised in the following remarks, is interesting, not only clinically, but as regards its etiology, since the patient contracted the disease by contagion—an admittedly rare event in so mildly contagious an affection as typhoid, as long as the poison is diluted by ventilation and destroyed, as all dirt diseases are destroyed, by cleanliness and disinfection.

On Jan. 13, 1876, I was called to see Mrs. S., wife of a sergeant of

* Read before the Medical Society of the College of Physicians, Wednesday, May 10, 1876. [For the discussion on this paper, see page 558.]

the Royal Engineers, occupying a room over the Victoria Library, Palatine-square, Royal Barracks. She had completed her thirtieth year, was of a delicate frame, and subject to winter cough, and never had any children. She had been ailing for a fortnight, but more so during the week previous to the date of my visit. On inquiry I found that on Tuesday, 19th December, she had gone to Beggarsbush Barracks to attend upon the wife of another sergeant of Engineers, returning in the evening, when she felt very much fatigued. The woman whom she visited was suffering from "low fever," and had been a week or ten days ill; her symptoms were debility, cough, fever, hot skin, white tongue, but no diarrhoea. On referring to the Army Medical Returns I found that this woman had been admitted on the sick list with enteric fever on 16th December, and that she was then under treatment. She attributed her illness to a cold caught at a dance given by the sergeants of the 4th Dragoon Guards, and appeared also to have been chilled by a wetting. She had not been removed from her quarters to hospital in consequence of the gravity of the lung symptoms. My patient had left off attending her on the evening of the 23rd December, having nursed her during four days, returning each afternoon to the Royal Barracks. On the evening of the 12th January she was feverish, her bowels loose, the stools characteristic; pulse, 120; temperature, 104° Fahr. Twenty days had elapsed since her last visit to Beggarsbush Barracks, and, as she had been ailing for about ten days, the ten days intervening between the 23rd December and 3rd January appeared to be the period of incubation. On the evening of the 13th she was labouring under the following symptoms:—Fever, hot skin, diarrhoea of a characteristic colour and odour, abdomen tympanitic and tender, but no gurgling; temperature, 103°; pulse, 120; tongue red at the tips and edges, and coated in the centre and posteriorly with a white fur; she was weak and disinclined to move, decubitus on the back; urine turbid and scanty; there were also the bronchial râles heard upon auscultation. On the abdomen were four rose-coloured lenticular spots disappearing upon pressure. The room she occupied was at the top of the building, and the block was isolated by a wall from the rest of the barracks; there were no closets in it, and the slops were emptied into a well-trapped sink in the yard behind. There had been no previous case of enteric fever in the quarter, and there seemed no alternative left but to believe that she had contracted the disease while attending upon her friend as previously described.

On the 14th two fresh spots, and on the 16th five more appeared upon the abdomen, and on the 18th eleven on the back. By the 24th the bronchial symptoms had increased in severity, the pulse became very weak and thready, and the general feeling of debility more pronounced, so that the use of alcoholic stimulants could be no longer withheld. During the night she took five tablespoonfuls of brandy, and a mixture containing ammonia and syrup of squills, under which treatment, and the continued use of jacket poultices, the chest symptoms gradually subsided, the breathing became less hurried, and the sputum muco-purulent. From this date stimulants of different kinds were administered *ad libitum*.

The stools were now becoming more fæculent, and the skin at night was bathed in a profuse perspiration. There was an exacerbation of fever on the evening of the 28th, when the temperature rose to 102·7°, and the pulse to 128 beats in the minute, after which date the temperature continued to oscillate between 98° and 99°, occasionally rising to 100°, until the 14th February, when there was another evening exacerbation to 102·6°, and a pulse of 120. She was now ordered cod-liver oil and milk morning and evening, and 5 grs. of quinine in dilute sulphuric acid, tincture of orange peel and water at noon daily. The temperature fell to 98°, oscillated above and below the normal line until the 9th of March, when it was below 97°, since which date the (to her) normal temperature has been along or below 96° Fahrenheit, rising only now and then to 97°. The pulse has continued high, never below 90, and nearly always above 100.

During the course of her illness the general chest symptoms subsided into localised deposits in the apices of both lungs, which are more observable in the right. Here, immediately beneath the clavicle, it is decidedly dull under percussion, the breathing is coarse, the vocal resonance increased, the heart-sounds abnormally conducted, the expiration cog-wheeled and prolonged; at intervals night-sweats are also troublesome.

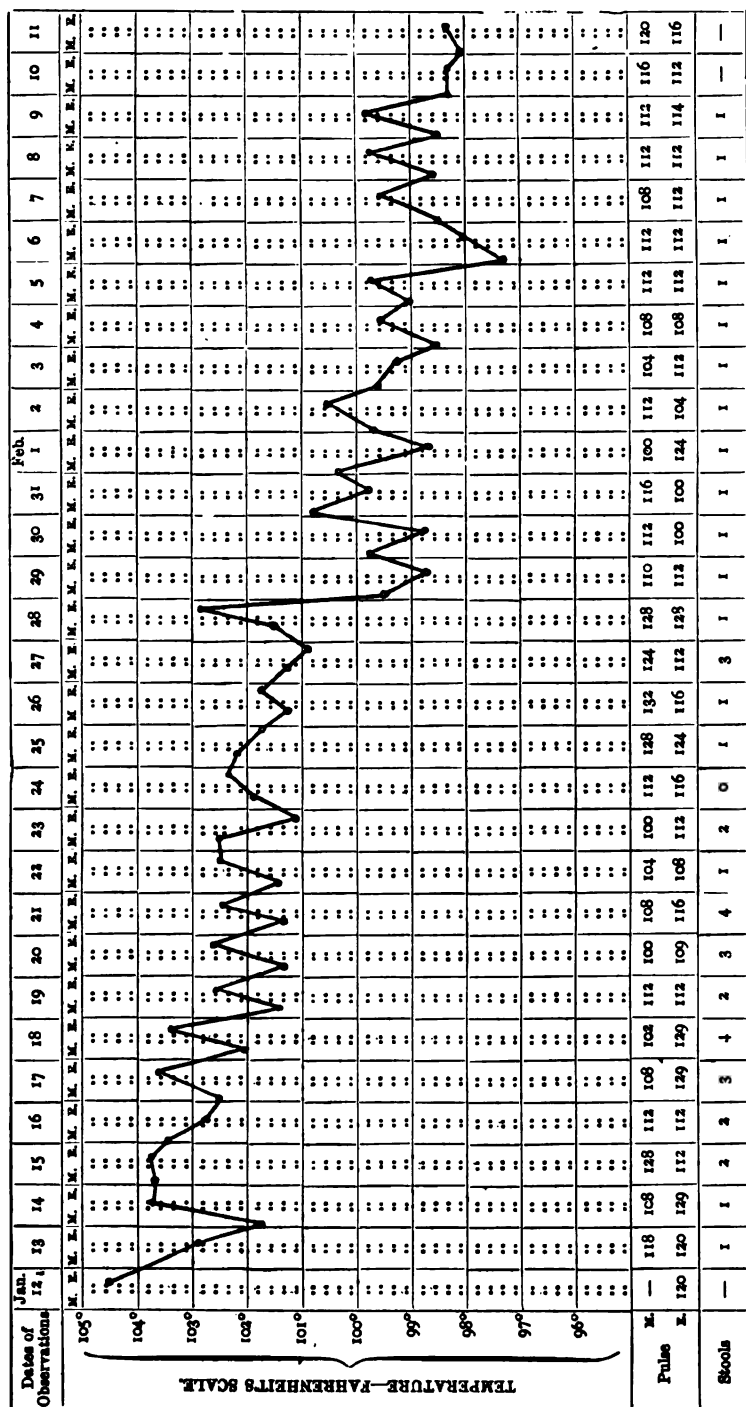
In the beginning of March a well-marked eruption of psoriasis appeared on the face, arms, and legs, which necessitated the substitution of a mixture containing iodide of potassium, bicarbonate of soda, liquor arsenicalis, and tincture of gentian, for the quinine and acid. The eruption was of a suspicious coppery colour, and accompanied by pains in the right elbow-joint and hand. This has now nearly disappeared. Under the influence of the administration

of cod-liver oil and milk, and a generous diet, the sputum was diminished in quantity and character. At first purulent, it is now little more than a few grains of dark mucus coughed up on rising in the morning. She is certainly also gaining flesh, although slowly. The chief point of interest is at present the very low temperature, which recent writers state is "a not inconstant—possibly always constant—evidence, which is at once the earliest and most appreciable sign of the pretubercular stage of phthisis." In other words, an *inability* on the part of the person in whom the requirements for the development of tubercle exist, and was about to be set in motion, *to maintain the temperature of the body up to the natural standard*, the deficiency amounting to about 1° Fahrenheit in the morning, and to 5° in the evening, reading."^a In this case the average temperature of twenty-one observations is 2° below the normal line of 98·4°; the average evening pulse was, up to the 5th April, 105. This abnormally low temperature and high pulse continues up to the present, although the chest symptoms are quiescent under the influence of diet and medicine. The case is an instructive one in its mode of origin, clinical history, sequelæ, and temperature. It proves that a persistently low temperature is not only indicative of the pretubercular stage of phthisis, but may co-exist with chronic tuberculosis. It also seems to corroborate the great diagnostic value of a persistently high pulse in chronic lung disease.

^a Boileau and Alcock in *Army Medical Reports*.

RECORDS OF TEMPERATURE, PULSE, AND EXCRETA.—I.

Mrs. S.; Age, 80; Disease, *Enteric Fever*.



The observations were taken daily at 9 a.m. and 5 p.m.

RECORDS OF TEMPERATURE AND PULSE.—II.

Mrs. S.; Age, 30; Disease, *Enteric Fever*, with *Phthisis Pulmonalis*.

Dates of Observations	Feb.												Max.																			
	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	1	2	3	4	5	6	7	8	9	10	11	12	13	
TEMPERATURE—FAHRENHEIT'S SCALE.	M.	M.	M.	M.	M.	M.	M.	M.	M.	M.	M.	M.	M.	M.	M.	M.	M.	M.	M.	M.	M.	M.	M.	M.	M.	M.	M.	M.	M.	M.	M.	
	K.	K.	K.	K.	K.	K.	K.	K.	K.	K.	K.	K.	K.	K.	K.	K.	K.	K.	K.	K.	K.	K.	K.	K.	K.	K.	K.	K.	K.	K.	K.	
	105°	105°	105°	105°	105°	105°	105°	105°	105°	105°	105°	105°	105°	105°	105°	105°	105°	105°	105°	105°	105°	105°	105°	105°	105°	105°	105°	105°	105°	105°	105°	
	104°	104°	104°	104°	104°	104°	104°	104°	104°	104°	104°	104°	104°	104°	104°	104°	104°	104°	104°	104°	104°	104°	104°	104°	104°	104°	104°	104°	104°	104°	104°	
	103°	103°	103°	103°	103°	103°	103°	103°	103°	103°	103°	103°	103°	103°	103°	103°	103°	103°	103°	103°	103°	103°	103°	103°	103°	103°	103°	103°	103°	103°	103°	
	102°	102°	102°	102°	102°	102°	102°	102°	102°	102°	102°	102°	102°	102°	102°	102°	102°	102°	102°	102°	102°	102°	102°	102°	102°	102°	102°	102°	102°	102°	102°	102°
	101°	101°	101°	101°	101°	101°	101°	101°	101°	101°	101°	101°	101°	101°	101°	101°	101°	101°	101°	101°	101°	101°	101°	101°	101°	101°	101°	101°	101°	101°	101°	101°
	100°	100°	100°	100°	100°	100°	100°	100°	100°	100°	100°	100°	100°	100°	100°	100°	100°	100°	100°	100°	100°	100°	100°	100°	100°	100°	100°	100°	100°	100°	100°	100°
	99°	99°	99°	99°	99°	99°	99°	99°	99°	99°	99°	99°	99°	99°	99°	99°	99°	99°	99°	99°	99°	99°	99°	99°	99°	99°	99°	99°	99°	99°	99°	99°
	98°	98°	98°	98°	98°	98°	98°	98°	98°	98°	98°	98°	98°	98°	98°	98°	98°	98°	98°	98°	98°	98°	98°	98°	98°	98°	98°	98°	98°	98°	98°	98°
	97°	97°	97°	97°	97°	97°	97°	97°	97°	97°	97°	97°	97°	97°	97°	97°	97°	97°	97°	97°	97°	97°	97°	97°	97°	97°	97°	97°	97°	97°	97°	97°
Pulse	M.	M.	M.	M.	M.	M.	M.	M.	M.	M.	M.	M.	M.	M.	M.	M.	M.	M.	M.	M.	M.	M.	M.	M.	M.	M.	M.	M.	M.	M.	M.	
	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	116	
	128	128	128	128	128	128	128	128	128	128	128	128	128	128	128	128	128	128	128	128	128	128	128	128	128	128	128	128	128	128	128	
	E.	E.	E.	E.	E.	E.	E.	E.	E.	E.	E.	E.	E.	E.	E.	E.	E.	E.	E.	E.	E.	E.	E.	E.	E.	E.	E.	E.	E.	E.	E.	

The observations were taken daily at 9 a.m. and 5 p.m.

RECORDS OF TEMPERATURE AND PULSE.—III.

Mrs. S.; Age, 30; Disease, Enteric Fever, with Phthisis Pulmonalis.

[illegible]

The observations were taken daily at 9 a.m. and 6 p.m.

ART. XXII.—*Case of Malignant Purpuric Fever.** By THOMAS W. GRIMSHAW, A.M., M.D., Physician to Steevens' and Cork-street (Fever) Hospitals.

ON April 12th I had the honour of bringing under the notice of the Medical Society a paper "On an Outbreak of Small-pox, illustrating the relation between that Disease and Cerebro-spinal Meningitis."^b The following case, when compared with Case I. of the paper above-mentioned, presents many points of interest:—

William M., aged twenty-one years, labourer, in the employment of the Port and Docks Board—residence, 1, Margaret's Cottages, Great Clarence-street—states he was eleven days ill before admission. Admitted on Thursday, April 28th, about 4 p.m.; conveyed to hospital in the cab belonging to the South Dublin Union. He stated that he was working at ballasting ships on the Saturday week previous to admission; that he was unusually hard worked for some days previous to his illness, and was constantly exposed to wet and cold. He did not feel quite well on Sunday, and on Monday had to give up his work and go to bed. On this day he had shivering fits, pain in his head, and vomited frequently, the vomited matter being of a bright green colour; he next got general pains in his limbs and back, but did not complain of special or severe pain in any one place. On being carefully questioned, he said he never had any pain in the back of his neck, but some all down his back. Temperature on evening of admission, 102·1°; respiration, normal; pulse, 100.

April 21st, 1876.—I first saw him on this day, when he complained of pains in arms, legs, and back; vomiting; diarrhoea; difficulty of passing water; there was no hyperæsthesia anywhere, and the pain did not seem to be severe. On examination, a number of slightly raised purpuric spots were found on the legs, especially on the ankles, and at several points where slight injuries and scratches had occurred; there was a tolerably good vaccination mark at the usual place on the left arm. Temperature, 98·2°; pulse, 84, very weak and compressible; slept pretty well during the night; has vomited green matter, and passed some dark blood from the bowels; there was slight general tenderness of the

* Read before the Medical Society of the King and Queen's College of Physicians, Wednesday, May 10, 1876. [For the discussion on this paper, see page 557.]

^b Cf. Dub. Journ. Med. Science. May, 1876. Page 405.

abdomen; the heart sounds were pretty good; respiration normal. A catheter was ordered to be passed, but the patient passed water himself without the aid of the instrument. I believed the case to be one of cerebro-spinal meningitis, and ordered iodide of potassium gr. 40, bromide of potassium gr. 80, water to 8 oz., one ounce to be taken every third hour. I also ordered 20 oz. of claret, and lime-water and milk for drink. Temperature in evening, 98·8°; pulse, 100.

22nd.—Vomiting had continued and become worse, everything being rejected; pain in stomach and tenderness of abdomen increased; spots more numerous and more raised, some spots on hands, and a considerable number over thighs and hips; bowels too free, and discharges of the same character as on previous day; passed normal urine, without assistance; temperature, 97·6°; pulse, 84. Ordered claret to be discontinued. Whiskey 4 oz., to be given in doses of 3 2 at a time, largely diluted with water, and a turpentine stupe to be applied over abdomen. Evening temperature, 97·2°; pulse, 104.

23rd.—Temperature, 97°; pulse, 92; vomiting less frequent, but of same character as yesterday; bowels still too loose, but discharges contain but little blood; spots more numerous and larger; large purpuric spot on prepuce; the spots on the hips had become confluent, and there seemed to be a tendency to bed-sores.

24th.—Spots much worse, more raised, harder, and more numerous on legs, thighs, and hips, a few on the arms, and scattered spots over the back and sides of the body; there was a large purpuric patch upon the right upper eyelid, and some minute black spots on lower lip and chin; slept badly; he seemed to be delirious during the night, but the nurse was not quite sure whether he raved when fully awake; pains much less severe—in fact he made no complaint of pains from this day onwards; passed little or no water; bowels still too free, the discharges being free from blood and of a nearly normal colour, but too fluid; temperature, 97·6°; pulse, 112. Ordered—whiskey 6 oz., and 1 oz. of confection of turpentine to be added to the mixture. The patient seemed cheerful, although complaining much of weakness.

25th.—The tongue, which up to this time had been almost normal, had now become dry and brown in the centre; pulse, 112; temperature, 97·6°; left eyelid discoloured by purpuric patch; some of the spots had raised white heads, with a little black spot

in the centre of each white head; he again complained of inability to pass water, when, after some difficulty, a catheter was passed, and a small quantity of normal urine drawn off; bowels less frequently moved; evening temperature, 98°; pulse, 100.

26th.—Had been delirious during night, and got but little sleep; tongue browner and drier than on previous day; complained of soreness of throat, but no ulceration or inflammation could be detected; passed water during night without assistance; pulse, 104, weak and irregular; temperature, 98°. One new spot had appeared on tip of left shoulder; this was about five-eighths of an inch in diameter, black, and raised, with a red areola; there was a group of dark spots on right wrist, and an erysipelatous blush over the back of the right hand; all the joints of the fingers of the right and some of those of the left hand were swollen and tender; the spots on the legs were the same as yesterday; some purulent discharge came from the right eye; had some pain in abdomen. With a view of producing quiet, 15 minims of liquor morphisæ were ordered to be given every fourth hour. Evening temperature, 99°; pulse, 142; was quiet and slept some during day.

27th.—Says he "feels weak, but is much better" than yesterday; temperature, 99°; pulse, 110, weak, but much steadier and more regular than yesterday; no increase of spots; other symptoms same as yesterday; evening temperature, 99·2°; pulse, 102.

28th.—Had not slept well during night, but had been sleeping all morning; pulse, 100, fuller and stronger than yesterday; temperature, 99·2°; tongue still dry and brown in centre; passed water twice; bowels moved four times, discharges brown and free from blood; no new spots and many of the older ones are drying up or becoming reddish; some pains still in arms and legs; a tendency to bed-sores over sacrum; slept during afternoon; evening temperature, 100·2°; pulse, 132. Ordered beef-tea, one pint.

29th.—Had slept all morning, but not during night; there was no delirium; pulse, 120, softer and weaker than yesterday; temperature, 100·6°; all the remaining spots have become reddish, some have disappeared; purpuric patches gone from eyelids; red blush gone from hand; soreness of throat better; some pain in right shoulder, but none in arms, back, or legs; there had been frequent fluid motions of the bowels, the discharges being normal in colour. With a view of diminishing the diarrhoea, one drachm of

tincture of opium was added to the mixture; evening temperature, 99·8°; pulse, 132.

30th.—Bowels much freer than yesterday; temperature, 101°; pulse, 132; other symptoms much the same. Ordered turpentine to be stopped; port wine, 6 ozs.; two eggs to be given as egg-flip. Evening temperature, 99·6°; pulse, 128.

May 1st.—Much worse; bowels moved over fifteen times, discharges bright green; passed water all right; said he was "too weak," and it was "all over" with him—this was the first sign of his desponding; was raving during the night, and was kept in bed with difficulty; the swelling and redness of the hands returned during the night. Ordered lead and opium pills, 4 grs. every second hour; wine 8 oz., whiskey 10 ozs.; beef-tea to be stopped. In spite of all treatment, the diarrhoea continued, and the patient died on the morning of the 2nd of May, at eight o'clock.

After much persuasion, the patient's friends consented to a *post mortem* examination, upon conditions that the spine alone should be examined. The examination was made twenty-eight hours after death, with the following results:—Rigor mortis well marked; livid patches extended between the shoulders and across the loins; the body was well nourished; the muscles were rather softer than normal, but of healthy colour; there was not the usual exudation of black blood which is generally met with in the examination of bodies who have died of cerebro-spinal meningitis; the lateral sinuses of the spine were filled with dark blood; the vessels of the whole of the anterior surface of the membrane of the cord were encysted, and the dura mater was partially attached to the arachnoid by bands of lymph; the posterior surfaces of the cord and membranes were comparatively healthy; the cord was softer than normal; the pathological changes were better marked at the middle and lower portions of the cord than in the upper; the other organs of the body could not be examined.

There does not appear to me to be any reason for believing the foregoing case to be one of small-pox. On the contrary, I believe it to be one of cerebro-spinal meningitis.

Comparing it with Case I. in my former paper, it resembles that case in the following particulars:—The presence of purpuric spots, especially about the hips; the difficulty of passing water; the purpuric effusion into the eyelids; the presence of pain in the back and legs; the presence, *post mortem*, of congestion of the membranes of the spinal cord, and slight lymphic exudation, especially at the

lower part of the cord, and in the absence during life of pain in the neck, or retraction of the head, or hyperæsthesia.

The case differs from Case I. of my former paper in having presented a certain amount of pain in the arms, in addition to that in the back and legs. The pain in the back was more general than in the former case. There was also vomiting.

The case also presents a certain amount of resemblance to one I published in "The Journal of Cutaneous Medicine," in the year 1868, Vol. II., page 37, especially in the marked appearance of the eruption about the hips.

It is, therefore, clear that this case presented all the symptoms of malignant purpuric small-pox, and that the marked cerebro-spinal symptoms of malignant purpuric meningitis were absent.

As the patient lived longer than in the case mentioned in my former paper, a better opportunity was afforded of watching the *progress* of the spots. Some of these certainly resembled those of small-pox, being hemispherical in form, with a depressed centre and a purple areola. In all cases the spots became purpuric before becoming red or fading. Many of the larger black spots assumed the form of small superficial dry sloughs, but none of them separated. The treatment of this case presents, I think, some useful practical illustrations. I believe the smallness of the effused materials discovered *post mortem* may be owing to some extent to the use of the iodide of potassium. It is also probable that the limitation of the severe pains usual in meningitis may have been owing to the bromide of potassium. It was certainly with a view of producing diminution of effused products in the cerebro-spinal membranes and the allaying of pain that I used these drugs. I believe the diminution of the purpuric condition was to a great extent owing to the use of turpentine, although I was unable to give it in as large doses as I should have prescribed if diarrhœa had not been such a serious complication. I may mention that, of all the remedies which I have employed in the treatment of purpuric conditions in malignant fevers, I believe turpentine to be the best.

Before leaving this question I would again refer to the close relationship which exists between small-pox, cerebro-spinal meningitis, and the vesicular eruptions of acute diseases. Thus we find that herpes zoster is admittedly connected with nervous lesion; that the vesicular and purpuric, or purpuro-vesicular eruptions of cerebro-spinal meningitis are associated with serious lesions of the

membranes of the nervous centres. Again, in a paper read before the Vienna Society of Physicians, in 1874, Dr. Neumann pointed out that in "three out of ten cases of 'purpura variolosa' (malignant small-pox), he found hæmorrhage into the perineurium of the spinal ganglia of the lumbar nerves; in a fourth there were opacities of the pia mater and arachnoid of the same region, with a nuclear inflammatory exudation on the corresponding portions of the dura mater; and in a fifth, extravasation of blood and granular opacities between the lumbar arachnoid and pia mater; in the sixth case—that of a young woman, who died on the ninth day of the disease—there was hæmorrhage in the sheath of the roots of the lumbar nerves."

Dr. Neumann thinks that the pains in the back in malignant small-pox are due to the implication of the posterior roots of the lumbar nerves in hæmorrhage, and that the ecchymoses characteristic of the disease depend on vaso-motor lesions acting through the communicating branches between the posterior roots of the spinal nerves and the sympathetic.

The evident contention of Dr. Neumann was, that there is a relation between zoster and small-pox. For my own part, when I take into consideration the relation of cerebro-spinal meningitis to herpes, distributed in a manner similar to that of "zoster," its frequent associations with vesicles, with black areola, raised purpuric spots, and extensive ecchymosis, and the relation of small-pox to purpuric eruptions, I cannot but believe that Neumann's opinions are justified, and that it is more than probable that ultimately a closer relation will be discovered between these diseases than pathologists are at present inclined to admit. I believe that examination of the spinal cord is too often neglected in the *post mortem* examination of persons dying from acute febrile diseases, and that the term "dissolution of the blood" is frequently employed to cloak pathological ignorance in cases of malignant purpura.

ART. XXIII.—*A Case of Paracentesis Pericardii.** By C. J. NIXON, L.K.Q.C.P.; Physician to the Mater Misericordiæ Hospital.

I DESIRE to place amongst the records of the Society the notes of a case in which paracentesis pericardii was performed for the first

* Read before the Medical Society of the College of Physicians, Wednesday, May 10, 1876. [For the discussion on this paper, see page 561.]

time, I believe, in this country. Although but temporary relief was afforded by the operation, for many reasons I consider I was justified in performing it, and its results were such as would induce me to adopt the same procedure in conditions similar to that which I am about to describe.

The patient was a well-nourished man, aged twenty, and was admitted into the Mater Misericordiae Hospital on the 13th of February last under the care of my colleague, Dr. Hughes. He was suffering from acute articular rheumatism, which was treated by quinine and alkalies, the joints being wrapped up in cotton wadding. During Dr. Hughes's temporary absence from duty the patient came under my care on the 1st of March. There was then considerable inflammation of the wrists and knee-joints; the patient suffered much from pain; he had a white-coated tongue; the pulse was 112, and the temperature 102° F. He complained of cough, and there were evidences of congestion of both lungs at their bases. Upon examining the heart I detected a slight diastolic roughness only audible over the root of the pulmonary artery, the pulmonic second sound being itself accented. From these signs I ventured at this time to diagnose commencing pericarditis. The patient looked blanched; he was perspiring freely, and complained of not passing a sufficient quantity of urine. A mixture of the citrate of iron and quinine and iodide of potassium was prescribed. He got a grain of the watery extract of opium every third hour; a small blister was applied over the heart, and a liberal amount of wine was allowed.

On the 3rd of March the harsh sound audible over the root of the pulmonary artery was intensely marked, and still purely diastolic. The patient complained of great hepatic tenderness, and a feeling of oppression about his heart. There seemed a decided tendency to recession of the articular inflammations, but he slept badly, and was very restless. He was ordered 1½ grains of opium every third hour. On the 5th of March it was found that the rough, single murmur was replaced by a loud, double attrition murmur, localised to the base of the heart. There was now distinct pulsation of the carotids, and pain on pressure in the epigastrium. The pulse was 120; the respirations 24; the temperature 99° F. There was a very decided increase in the area of precordial dulness, which up to this time had been normal in extent. The patient complained of great pain in the right side of the chest below the breast, which was relieved by poulticing. On the following day

the respirations had increased to 30 in the minute; the patient was extremely restless, and looked intensely anæmic. The area of dulness over the heart extended upwards as high as the second rib; it corresponded in shape to a triangle with the apex above, the extremities of the base reaching to the nipple line upon the left side, and extending upon the right side fully one inch beyond the margin of the sternum. Over this area the friction sounds were heard, harsh and grating in character. A feeble shock was felt over the region of the heart, but there were no sensations of friction communicated to the hand. The patient was completely free from any affection of his joints. On the 7th March there was no very appreciable change in the condition of the patient. The attrition murmurs were still audible over the entire cardiac region, and by transmission in the right hypochondrium.

On the morning of the 8th of March the resident pupil, Mr. Lentaigne, was suddenly sent for to see the patient, whom he found sitting up in bed, his eyes fixed and staring, and the pupils widely dilated, looking intensely anxious and tossing himself about in a state of great excitement. His respirations were uncountable; he complained, as well as he could speak, of pain and tightness about his heart, and a feeling of approaching death. I saw the patient a short time afterwards, and found him in the condition described. The dulness on percussion over the heart had increased; there were now no friction murmurs, and the normal sounds of the heart were, considering the man's condition, singularly audible. Believing that the patient was dying I proposed to tap the pericardium, and Dr. Hayden, who saw the case with me, agreed as to the necessity for the operation. Without altering the position of the patient, I made a small incision dividing the skin and subcutaneous cellular tissue in the fifth intercostal space, about two fingers' breadth from the left border of the sternum. I then passed through this opening Dieulafoy's No. 2 trocar and canula, in a direction obliquely backwards, upwards, and to the right side. Although the canula had been passed in to more than half of its extent, no fluid escaped on connecting it with the aspirator. I accordingly withdrew it, and found that it had been plugged with a blood clot. I now introduced the No. 4 trocar and canula along the track of the wound, and for the same distance. I ascertained that there was no resistance to the point of the canula until it was turned considerably inwards, when I found that the end which I held in my fingers was displaced towards the mesial line by the heart bumping against

the end in contact with it. I kept, then, the canula in close contact with the parietal layer of the pericardium, the roughened surface of which I distinctly felt, and adjusted it to the aspirator. About 3 or 4 ounces of bloody serum were withdrawn; the canula was allowed to remain within the pericardium for about a minute and a half, but no more fluid was obtained. The patient complained of some pain caused by the instrument; it was accordingly withdrawn, and ascertained to be free from plugging. The entire operation lasted for five minutes. Immediately after it the patient experienced great relief, his breathing became somewhat easier, and he lost the feeling of oppression about his heart. He was decidedly less anxious and excited. He told us that he felt greatly better after the operation, though, I confess, the change was more subjective than objective. I saw him late in the day, and found him certainly improved. He had had some sleep, and the breathing was fairly tranquil. There was no change in the physical signs of the heart affection. Repeated doses of Hoffman's ether and laudanum were administered, and a full opiate was ordered to be given at night. In the evening he had a sudden attack of dyspnoea and became delirious; but this condition lasted only a short time, and he got a fair amount of sleep. He suffered a good deal of irritation from the front of his chest, which had been freely blistered with vesicating collodion. Dr. Hughes saw the case with me on the following day, and with his usual courtesy left the patient under my charge. Both he and Dr. Hayden considered the aspect and general condition of the man greatly improved. The pulse, however, was 120; the temperature 100° F., and the respirations 34. He had a return of pain in the right side of his chest, and a distinct friction sound was audible below the right nipple. He, moreover, complained of pains in some of his joints. On the 10th March he suffered greatly from cough, which was accompanied by rusty sputum. Bronchial breathing existed over the bases of both lungs. A pleuritic friction sound was now audible over both sides of the chest. During the two following days the patient became gradually worse. There was an increase of the precordial area of dulness; both sides of the chest were dull postero-laterally, and the friction sounds were still heard over both pleuræ behind the nipples. The pulse, however, was fairly strong, and the heart sounds distinctly audible and free from murmur. On the 13th of March the patient was very delirious; the temperature was 103° F.; the respirations 54, and the pulse 132. Without any alteration in symptoms or signs the patient

died on the morning of the 14th March, six days after the tapping of his pericardium. The only other point in connexion with the clinical history worthy of remark was the inverse ratio which apparently existed between the articular and the cardiac lesions. The patient was entirely free from articular pains during the advent of the pericarditis; the pains returned during the temporary improvement which followed paracentesis, and again subsided during the later aggravation of the cardiac and pulmonary symptoms.

The *post mortem* examination was most carefully made by my resident, Mr. John Lentaigne, to whom I am indebted for most of the particulars of the case, and also for the great amount of attention and care which he bestowed upon the patient.

The particulars of the thoracic lesions found are briefly as follows:—Both pleuræ contained several pints of clear serous fluid, and some shreddy lymph, evidently of recent origin, was found on the anterior portions of the lungs. The latter were congested posteriorly and partially carnified. The pericardium appeared to be enormously distended, and when opened gave exit to over 30 ounces of sero-purulent fluid, which contained traces of blood. Both layers of the serous membrane were considerably thickened, especially the epicardial one, the rough, shaggy lymph upon it affording a good example of the appearance known as the *cor villosum*. Upon the parietal layer an ecchymosis existed corresponding to the site of puncture, and an exceedingly minute valvular elevation of the membrane was here noticeable. The heart itself was very large; its valves were healthy. It was adherent to the pericardium for the breadth of about an inch square, a little below the root of the pulmonary artery.

There was no evidence anywhere of tubercular deposition, a point of some interest in connexion with the observation of Aran, that the effusion of a large quantity of purulent fluid in the cavity of the pericardium is attended with the production of tubercle.

The considerations suggested by the foregoing notes refer to the condition of the pericardium when punctured, and to the effect the operation had on the progress of the case. It seems to me that at first there was little or no liquid effusion in the cavity of the pericardium, and that the great increase of the area of cardiac dulness which existed was due to thickening of both surfaces of the serous membrane by depositions of lymph. It will be borne in mind that the increase of dulness on percussion co-existed with a diffused cardiac impulse, a fairly strong pulse, well-pronounced sounds, and

an intense double friction murmur. I believe that at the time the patient was seized with the acute attack of dyspnœa and orthopnœa, a rapid effusion of an hæmorrhagic nature took place, mainly derived, in all probability, from rupture of the newly-formed blood-vessels in the layers of lymph thrown out. In most instances a serous effusion is accommodated by the yielding of the parietal layer of the pericardium, but in this case the membrane did not yield, either owing to its thickening and loss of elasticity, or from its being bound to the heart by partial adhesions. Under such conditions the pressure of a small amount of fluid, rapidly secreted, was sufficient to cause great embarrassment of the movements of the heart. Of course I do not overlook the probable engagement of the myocardium by extension of inflammation from the serous membrane. This, no doubt, may have played an important part in the causation of the lesions of function which existed. I merely suggest that the effusion was something superadded to this, an important *condition* if not a cause of those lesions, and that removal of the comparatively small quantity of fluid enabled the heart to act more effectively, and hence the temporary relief afforded by the operation.

The very large quantity of sero-purulent fluid found subsequently in the cavity of the pericardium was derived, I consider, from a breaking down of the pericardial and epicardial lymph in a manner similar to what Paget describes as taking place in an ordinary phlegmonous abscess. The removal in this way of a great quantity of lymph rendered the pericardium more capable of distension, and so the hydrostatic pressure upon the heart was in part obviated. In hydropericardium it is well known that the heart acts vigorously, although the fluid effused be exceedingly large in quantity; and I may remind the Society that during the last few days of the patient's illness he apparently suffered more from pulmonary and pleuritic complications than from the primary affection of his heart.

It is a mere matter of conjecture as to what influence aspiration had in producing the pyo-pericardium. My experience of this procedure in cases of pleural effusion is that where the fluid re-accumulates it contains an admixture of pus larger in quantity in proportion to the number of times it is re-secreted. I believe no matter how carefully aspiration of a serous cavity is performed some air is admitted into it, and thus an element very essential in the production of a purulent secretion is added to pre-existing conditions.

Kreysig, in his work on "Paracentesis of the Pericardium," held that, apart from the difficulty of selecting cases suitable for operation, there was always fear of consecutive inflammation of the heart, the introduction of air leading to suppuration ending in death. If we only look to ulterior results we must, I think, agree with this observer that the operation is, in most instances, of little avail; but if it is of advantage to relieve distressing symptoms, and for a time, at least, ward off impending death. I believe one's judgment or experience will point out to him cases where we are justified in incurring its risks for its immediate benefits.

I may be permitted briefly to mention the methods adopted, or proposed to be adopted, for the relief of pericardial effusion. Firstly, Senac, Skielderup, and Laennec advised trephining the sternum immediately above the xyphoid appendix below the insertion of the fifth costal cartilage, and that the pericardium should be punctured through the opening. Merat justly observes with regard to this operation that death would be likely to ensue immediately from the entrance of air into both pleuræ through a rent in the anterior mediastinum. Although formulated, the operation was never practised.

Larrey proposed to make the puncture between the edge of the ensiform cartilage and the cartilage of the eighth rib on the left side, the instrument being carried from below obliquely upwards and to the right side. The two objections to this operation are—firstly, the danger of wounding a branch of the internal mammary artery; and, secondly, Velpeau points out that the instrument may be carried in such a direction as not to reach the pericardium at all, owing either to an cedematous state of the cellular tissue or to its extensive development.

The more modern methods consist in incising the thoracic parietes layer by layer until the pericardium is reached and laid open with a bistoury, or by tapping directly with a trocar and canula. Trousseau recommended and practised the former method, owing, as he alleged, to the difficulty which always involves the diagnosis of fluid in the pericardium, whilst Aran, Kyber, and Karawagen successfully adopted the latter more simple procedure. Other operators have combined these methods, passing the trocar through the preliminary incision made in the skin. A very complete and interesting historical account of paracentesis of the pericardium is given in Dr. Bellingham's work on diseases of the heart, and a valuable table of the cases in which the operation has been

practised will be found in Dr. Hayden's more recent work on the same subject.

The diagnosis of commencing pericarditis was made in this case from the existence of a rough diastolic murmur audible over the origin of the pulmonary artery, and a co-existing accentuated pulmonary second sound. In a number of cases of acute rheumatism which came under my care in hospital, where the heart was examined daily, I observed that the ordinary signs of pericarditis were preceded by those which I have just mentioned. I have met with these physical signs so constantly during the past two or three years that I am forced to regard them as indications of the commencing serous inflammation. The peculiar rhythm of the murmur and its site render it liable to be mistaken only for the murmur of pulmonic patency, or for a double second sound. The former may, for all practical purposes, be excluded from consideration, whilst the latter may in all cases be recognised by its peculiar acoustic characters. I am very slow to describe, positively, new signs in the diagnosis of maladies of the heart, and my experience of the existence of those mentioned has been probably as yet insufficient to warrant me generalising as to their significance. I would merely bespeak the attention of practical physicians for the phenomena, and, if their observation should accord with mine, the signs might possibly be regarded as important indications for early and active treatment.

CHANGES IN THE INTESTINE DUE TO EMBOLISM OF THE ARTERIES.

BIESIADECKI (*Wien. Med. Presse*, 1876, p. 166) says that it has long been known that emboli of the superior mesenteric artery are followed by hæmorrhagic peritonitis, and that calcified emboli may cause false aneurisms in the mesenteric arteries, which may afterwards burst. Various cases observed recently, however, go to prove that other changes may occur in the intestine as a result of embolism. Two cases have been noted where a patch of intestine one-fourth of an inch long became necrosed entirely. In the neighbourhood of this patch the mucous membrane was covered with a diphtheroid deposit, the neighbouring parts being glued to the intestine by croupous exudation. In several cases necrosis of the mucous membrane resulted from emboli of the arteries, giving rise to extensive ulcers with infiltrated borders. On healing, these ulcers caused contraction of the intestine.—*Philadelphia Med. Times*.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

Bone Syphilis in Children. By R. W. TAYLOR, M.D. New York: Wood & Co. London: Sampson Low, Marston, Low, & Searle.

THOSE who are interested in the observation of syphilis, and in tracing its many forms and developments, will find in this volume a very valuable help to their studies. It is in every way creditable to the country from which it comes to us, to the publishers who have sent it out in the most attractive garb, but especially to the author who gives evidence in it of great industry, and a power of stating facts and of reasoning from them which might be more frequently met with in medical literature. The inherited syphilis of children has already attracted a good deal of attention, and has formed the subject of numerous works, but in the special forms here treated of it has been but imperfectly studied.

Bone lesions—swellings and epiphysary separations—have, we think, often been grouped as the results of rickets, when in truth if a satisfactory history had been searched out, they would have been referred to their true cause—transmitted syphilis. The rarity of these affections has been generally accepted as established, but Wegner, Waldeyer, and Köbner, following Ranvier, have shown that they are more common than is generally supposed. These writers have, however, mainly devoted their writings to the pathological side of the question. Dr. Taylor takes up that aspect which will be most interesting to the practical surgeon, namely, the clinical. He has taken very full notes of twelve undoubted cases which have come under his own care; and he has collected eight, the history of which has been published by various authors.

Knowing as we do the modifying influences of syphilis on healthy processes, it is natural to look for their exhibition at those points in which we know growth is most active in the bones of children. In the long bones this occurs in the diaphyso-epiphysal junction. Taking the radius and ulna as examples, we shall find, on passing the finger along the shaft, an abrupt elevation, usually upon all surfaces except that in coaptation with its companion bone, generally smooth but possibly undulating. "It is generally rounded off at

its peripheral portion, where it may end by simply enlarging that portion of the bone which corresponds to the ossifying layer between the shaft and the epiphysis, or it may extend further down and merge gradually into an expanded epiphysis. In the latter case the surface of the bone is rounded at its proximal and flattened towards its distal end. In the first case, in which only a limited portion of the shaft and the epiphysis is involved, the swelling which is usually from three quarters to perhaps an inch and a quarter, can be traced as a ring encircling the whole bone, and then the epiphysis beyond it is felt to be normal." While, however, a portion of the epiphysis is involved usually, the whole of that part may undergo great enlargement. The lower extremities of these bones are more frequently affected than the upper. In the humerus the part most frequently involved is the internal condyle, in connexion with which it may be observed that any one centre of ossification may be the point of attack. The clavicle is enlarged at its sternal end, the extremity at which we find an epiphysis. In the tibia and fibula the tumour is usually found about two inches above either malleolus. The upper part of the tibia is more frequently swollen than the same part of the fibula. The femur seems to be rarely affected, but when it is the swelling is generally found at the lower extremity. Any of the bones of the hands or feet are liable to enlargement. Of the phalanges the first or proximal is that usually the seat of disease. There is no case reported in which the second suffered from syphilitic hypertrophy in very young children.

One of the more interesting complications of these syphilitic affections of bone is the separation of epiphysis and diaphysis, which occasionally occurs. In some instances this has been attended by suppuration and the formation of a sinus; but in others the condition has only been detected by the mobility of the parts and the crepitus obtained in moving them.

These swellings require care in diagnosis, since they may in their resolute form be confounded with rickets; in the form in which the swellings are locally developed on either side of the bone, they may be mistaken for hereditary epiphyseal exostosis; in the degenerative form in which separation of the epiphysis occurs, they may be regarded as cases of abscess or synovitis, or of necrosis. As to the differential diagnosis of rickets and syphilitic osseous tumours it may be borne in mind that the first has always a prodromal stage. The swellings appear after the sixth month, the occipital bone is thin at spots, there is thickening at the sutures, the ribs are almost always

symmetrically implicated, there is bending of the shaft as well as distortion of the joint in the extremities. In syphilis the swellings show themselves soon after birth, the skull and ribs are rarely affected coincidentally with the other bones, while the lesions are generally followed by resolution without change. The treatment consists in a combination of mercury and iodide of potassium.

Dr. Taylor's investigation in this department is thorough. He has collected the experiences and opinions of many surgeons who have had the opportunity of treating cases of this description, and he discusses their details in connexion with those of his own with great clearness. He shows himself to be a most competent observer, and we shall be glad to see the results of his further labour in some of the more complex problems which beset the study of syphilis.

Lectures on the Comparative Anatomy of the Placenta. First Series.

By WM. TURNER, M.B. (Lond.), Professor of Anatomy, University of Edinburgh. Edinburgh: A. & C. Black. 1876. Pp. 124.

MOST students of comparative anatomy are familiar with Professor Turner's papers on the placenta of various animals, published in the "Proceedings and Transactions of the Royal Society of Edinburgh." In the series of lectures under notice, delivered at the London College of Surgeons, he has embodied an immense mass of facts which he has, with characteristic thoroughness and patience, accumulated in the course of his dissections, and he has put them together in such a clear and connected form as to render the work one of extreme value to the biologist.

He begins with a general sketch of the early stages of development of the ovum and of the foetal membranes, tracing the various conditions of the villi of the chorion as forming diffuse, cotyledonary, bell-shaped, zonary, or discoidal placenta. The first form is then described as it exists in pigs, cetaceans, mares, lemurs, camels, &c. In the pig Professor Turner describes the stellate spots of v. Baer as being opposite the ducts of the uterine glands, as Eschricht had noticed, and he describes the crypts for the villi as interglandular, and not formed of the dilated ducts of glands; although this view (first put forward by Ercolani) seems contradicted by the structure in *Orca*, where some funnel-shaped pits receive the ducts, yet it is otherwise generally true of all those animals that have diffused placenta, even in the porpoise (Eschricht).

Professor Turner next describes those placentaë whose villi are in tuft-like masses (foetal cotyledons), lodged in crypts, in spongy, often cup-shaped thickenings of the uterine mucosa (maternal cotyledons) and he shows that the smaller cotyledons of Weber are, as v. Baer suspected, receptacles for the secretion of the uterine glands, which open around, not into, the pits of the maternal cotyledons.

The third class of placentaë examined are those of the zonary type, truly deciduate, but here Prof. Turner shows that the placenta is deciduate or indeciduate according as the villi are closely or loosely locked in the crypts, and are much or little branched. Thus in the cow the uterine epithelium only is torn away, in the dog more than half the thickness of the whole mucosa. He also shows that the two kinds of uterine glands described by Sharpey and Weber are really the same, viewed in different planes of section. The placenta of the hyrax he also proves to be zonary and deciduate, and not as described by Milne Edwards, and George.

In conclusion, he establishes that the crypts for the villi on the uterine mucosa are not the dilated ducts of glands but are modifications of the interglandular mucous membrane.

Professor Turner regards the placenta as a secreting apparatus, and while he recognises the force of Savory's experiments in support of diffusion, he still regards the chief function of the organ to be that of a nourishment-secreting gland. In early stages of development, or in diffuse placentaë the uterine glands secrete a milky fluid which is absorbed by the membranes in the stellate areas. In later stages the crypts may act as secreting follicles, their secretions being absorbed by the foetal portion.

Professor Turner's paper is beautifully illustrated, and is a most valuable addition to modern morphological literature.

A. M.

Air and its Relations to Life. By WALTER NOEL HARTLEY, F.C.S. London: Longmans, Green, & Co. 1876. 8vo., pp. 243.

THIS book is, with some additions, the substance of a course of lectures delivered in the summer of 1874 at the Royal Institution of Great Britain. It is pleasantly written, fully illustrated by drawings, and gives a valuable *résumé* of what is now known as to the composition of air and its relations to life. With unusual success, Mr. Hartley has omitted, in general, technical terms, and his language is so simple and precise that any average school-boy

or school-girl could read the greater part of his book with pleasure and profit.

But let not our readers suppose that it is therefore a mere school treatise; far from it. Physicians and, above all, medical officers of health will find it a satisfactory work of reference. Nothing can be simpler or more easily understood than the author's description of the methods of measuring the impurity of the air, of the principles of ventilation, and of other points connected with practical and scientific medicine. M. Pasteur's researches on atmospherical dust are detailed at length. This portion of the book includes his microscopic examination of the solid particles diffused in the atmosphere, besides his experiments with heated air, infusions and other alterable liquids. A *résumé* of Dr. Bastian's experiments concerning the evolution of life from lifeless matter follows. The theory supported by that author, as to the heterogenous evolution of living things finds no favour at Mr. Hartley's hands, who seems to be, indeed, an ardent disciple of M. Pasteur.

The great interest with which we read this book made us regret the more one defect in its compilation—the absence, namely, of any index. The full Table of Contents at the beginning, to a certain extent, supplies the want, but to our mind no book is complete without an accurate and comprehensive index.

The Causes and Treatment of Imperfect Digestion. By ARTHUR LEARED, M.D., Oxon. and Dub.; M.R.I.A., F.R.C.P., Lond., &c. Sixth edition, revised and enlarged. London: J. & A. Churchill. 1875. Small 8vo., pp. 288.

SIXTEEN years have passed since Dr. Leared's eminently practical work first saw the light. The publication of six editions in a comparatively short space of time tends to corroborate the favourable opinion we formed of the book when it first appeared. We have only to say that the present issue shows the author to be a physician who not merely observes and reasons for himself, but carefully notes the daily progress made in medicine and the allied sciences.

The present edition includes three appendices—the first describes experiments as to the cause of heartburn; the second deals with the successful treatment of flatulence by a novel use of charcoal—ordinary wood charcoal freshly prepared and hermetically sealed in gelatine capsules; the third reproduces from *The Lancet*, January

17, 1874, a method of preparing a fresh extract of meat of any required strength.

Our "rinking" friends will read with interest Chap. VII., on the "Hygienic Treatment of Dyspepsia," in which Dr. Leared speaks highly of the value of skating, and gives an interesting account of the improvement of roller-skating by Mr. James Plimpton.

The tone of the book is, as we have said, thoroughly practical, and Dr. Leared's sympathising language from cover to cover seems to say to all dyspeptics:—

"Now, good digestion wait on appetite,
And health on both."

A Dictionary of Hygiene and Public Health. By ALEXANDER WYNTER BLYTH, M.R.C.S., F.C.S., &c. London: Charles Griffin & Co. 1876. 8vo., pp. 672.

WE believe that to Mr. Blyth belongs the credit of compiling the first Dictionary of Public Health which has been published in the United Kingdom. As a medical officer of health in charge of an extensive sanitary district—that of North Devon—and as analyst for the County of Devon, he possesses qualifications which eminently fit him for the accomplishment of the task he has undertaken.

Although we feel bound to criticise the work unfavourably in some particulars, we may fairly congratulate Mr. Blyth on having been, to a large extent, successful in his attempt to compile "a book of reference which, in one volume of convenient size, shall contain the information on sanitary topics at present only to be gathered from the perusal of many separate and distinct treatises."

It is a matter for regret, however, that Mr. Blyth should have studiously avoided all reference to sanitation and to sanitary law in Ireland. The 800 medical officers of health in this country will seek in vain in his work for information as to the Public Health Act of 1874, or other Acts relating solely to Ireland. We cannot but think that Mr. Blyth might have consulted with advantage two Irish works on Public Health—Dr. Cameron's "Manual," and "The Manual of Public Health for Ireland;" and, by doing so, have rendered his work a national one.

Again, for an English sanitarian to base such a dictionary as the present one on M. Tardieu's "Dictionnaire d'Hygiène Publique," is a doubtful recognition, on his part, of the present position occupied by sanitary science in England.

PART III.

HALF-YEARLY REPORTS.

REPORT ON SURGERY.

By WM. THOMSON, A.B., M.D., and Ch.M., Q.U.I.; Fellow and Member of the Surgical Court of Examiners, Royal College of Surgeons, Ireland; Surgeon to the Richmond, Whitworth, and Hardwicke Hospitals.

THE DIAGNOSIS AND TREATMENT OF TETANUS.

IN a communication to the Société de Biologie of Paris,* M. Richet observes that it would be important in certain doubtful cases of tetanus to have a precise and incontestible means of investigation such as is provided by the pneumograph. Recently he has obtained by its use in two cases some valuable indications for diagnosis, prognosis, and treatment. In tetanus death is not the result of the fever, or of the high temperature, or of the contraction of the muscles of the limbs, but of the contraction of the muscles of respiration and the resulting asphyxia. The minute analysis of the mechanical phenomena of respiration in tetanic patients ought to enable us to judge of the gravity and to determine the therapeutics of the disease. Several questions may be proposed in the consideration of the question. Does the spasm affect the inspiratory or the expiratory muscles—act upon the expiratory muscles or upon the glottis? Are the respiratory troubles the result of distension or contraction of the thorax?

The inspection of the tracing taken in the case of a man who died sixteen hours after the attack, shows that the tetanic pause occurs after expiration and before inspiration when the thorax has expelled the contained air; in other words, that inspiratory movement has been considerably retarded. In this case there was a kind of expiratory spasm. But did it belong to a *tétanus* of the expiratory muscles, or to spasm of the glottis? The inspection of the abdomen showed that he made violent efforts to inspire, but

* *Gazette des Hôpitaux*. March 7, 1876.

that there was a mechanical obstacle to this act which was not in the abdominal walls. It could only be then in the glottis.

Other tracings showed the same fact under different forms. It seems that the thorax cannot be completely filled; the glottis, opposing the entrance of air, prevents inspiration from filling the void made by expiration. In each inspiratory act it is necessary that the lips of the glottis should separate in order to permit the air to reach the tracheo-bronchial canal. It is this separation of the lips of the glottis which does not take place in tetanus, and the thorax remains in a state of expiration.

In another case—that of a child aged fifteen years—in whom the symptoms were much less grave, the tetanic spasm occurred not in expiration but in inspiration. The form which the inspiration of true tetanus gives may be obtained by registering the muscular contractions of a frog poisoned by strychnine, or excited by a rapidly-intermitting induction current. The form of the summit, the sharp ascent, the jerking descent, following tumultuous and irregular inspiratory movements, are similar, and show the close correspondence which exists between physiological and pathological tetanus. It may be seen, in the next place, that there is an absolute difference between the two cases observed by Richet. In the first there is arrest in expiration, and then the cause is in spasm of the glottis. In the second there is arrest in inspiration, and the cause is a contraction of the inspiratory muscles.

This distinction is not a simple curiosity of pathological physiology. If we are assured that the spasm is due to the inspiratory muscles tracheotomy is useless, and a recovery may be hoped for, because aeration of the blood will be sufficient to permit remedies to be absorbed and to modify the medullary excitement. If, on the other hand, there is arrest in expiration, and, as is very probable, owing to spasm of the glottis, the prognosis will be much more grave, for aeration will be nothing, or next to nothing, and asphyxia will threaten. It will be necessary then to contemplate tracheotomy, and in such cases, pointed out by Verneuil, this operation has restored life to the patients who were being asphyxiated.

Although there are well-marked spasms which may be observed, although imperfectly, without the pneumograph, there are others less strongly marked, or rather irregular respirations, which it would be impossible to observe without a registering apparatus. In a word, there is a tetanus of inspiration and a tetanus of

expiration. The pneumograph alone can distinguish them, and this diagnosis is necessary because the tetanus of expiration is much more grave, and may require for its treatment tracheotomy or any other remedy directed against the contraction of the laryngeal orifice.

Mr. Milner, in the "Bartholomew Hospital Reports for 1875," recommends nerve-stretching in the treatment of tetanus. M. Verneuil has lately adopted the practice. He exposed the median nerve at the elbow and the ulnar at the wrist, and stretched them, the patient recovering. Mr. Callender* advocates the trial of this method. In view of the unsatisfactory results of the treatment of traumatic tetanus, there is full justification for the performance of the operation, as at least a last resource, although he thinks it ought to be done, as in Verneuil's case, as soon as the signs of the disease are distinctly recognised.

A case is reported^b from the practice of Professor Spence, in which tetanus followed upon laceration about the knee-joint in a child aged five years. The case was treated with hydrate of chloral. The joint was so injured that amputation was performed. Immediately afterwards twenty grains of chloral were given, and the same amount in two hours. The interval of rest from spasm increased from ten to forty-five minutes. After each spasm he had five grains of chloral, and on three occasions hypodermic injections of three, five, and seven and a half minims of solution of the sulphate of atropia. Gradually the patient recovered. Professor Spence does not wish this case to be understood as indicating the opinion that amputation would be successful in arresting the tetanic symptoms in all cases where they arise from lesion of a limb, by removing the cause and cutting off the continuity between the irritated peripheral nerves and the nerve centres. He has removed fingers in tetanus without benefit. But the case, he thinks, warrants him in saying that no remedial measures could have relieved the patient unless the injured limb had been removed.

ON THE TREATMENT OF INTESTINAL OBSTRUCTION BY ABDOMINAL SECTION.

The question of operative interference by abdominal section in cases of obstructed intestines has acquired much importance from three papers on the subject submitted to the Royal Medical and

* *Lancet*. April 22, 1876.

^b *Ibid*.

Chirurgical Society by Messrs. Marsh, Fagge, and Howse, and Jonathan Hutchinson;^a and from a fourth, read before the Clinical Society of London by Mr. Maunder.^b In the first case, an infant aged seven months, the symptoms had existed thirteen days, having been ushered in by dysenteric diarrhœa, sickness, and griping abdominal pains. On the last date the bowel was found projecting from the anus about two inches, and the ileo-cæcal valve could be seen at the extremity of the protrusion, while in the abdomen a firm cylindrical tumour was felt in the course of the descending colon. Insufflation and distension with water was unavailing, and the child soon fell into a state of collapse. The abdomen was opened for about two inches below the umbilicus. The intussusception was drawn through the wound and easily reduced. No bad symptom followed; sickness ceased; fæces passed on the third day, and on the fourth the child was convalescent.

The second case occurred in a woman aged thirty-three, who had been complaining for fifteen days of paroxysmal pain in the abdomen, and in whose right iliac fossa a tumour, which afterwards moved to the left fossa, was observed. There was no decided constipation, the tongue was clean, and the pulse hardly above the normal rate. Intussusception was diagnosed, and inflation was practised three times without success. There was slight sickness, and as the bowels had not been moved for two days since the first insufflation, operation was proposed and consented to. The intussuscepted mass could not be reduced in the abdomen and was withdrawn. Pulling at the ends failed, and it was only a kind of kneading movement, with pressure upon the distal end, that reduction was effected. The length of the included bowel was eighteen inches. The patient recovered without a bad symptom. In this case hæmorrhage from the bowels was absent, although it has been regarded as a cardinal symptom of intussusception.

In the third case the patient was aged six months, the intussusception involving the whole length of the colon, and the ileo-cæcal valve, introverted, constituted its extremity and was easily felt in the anus. As the child was sinking the operation was performed, but considerable difficulties were encountered in reducing the intussuscepted part. Its neck was tied back by the meso-colon, and could not be brought into view, and it was found impossible to draw the engaged bowel out of the sheath. It was found, however, that although the upper end of the intussusception was fixed,

^a Brit. Med. Journal. Jan. 1, 1876.

^b Ibid. April 1, 1876.

its lower one, containing the sigmoid flexure, was quite loose. This was readily brought out, and by gently pulling the sheath downwards reduction was easily effected. Death occurred in six hours, and evidences of recent extensive peritonitis were found.

In Mr. Maunder's case the patient was sixty-eight years of age, of costive habit, and had passed some blood on two occasions, without apparent cause, about six weeks before coming under observation. His general health was not good; he had suffered from gout, and his pulse was feeble and intermitting. He complained of constipation and uneasiness, but these were relieved by an aperient. In five days he made a similar complaint, and then the abdomen was found to be distended and tympanitic, especially in the centre. A tumour was detected on deep pressure, somewhat to the left of the umbilicus. Aperients did not affect him, and next morning there was great pain around the umbilicus and towards the right iliac fossa. The large intestine was empty. Treatment failed to relieve the great distress, and operation was consented to when hiccough, vomiting, and depression had occurred. A small opening was made below the level of a line drawn between the antero-superior spine of the ilium on the right side and the umbilicus, the peritoneum being divided only to the extent of three-quarters of an inch. An opening was made in the ileum to allow of the escape of gas, and this was followed by an abundant flow of semi-solid rusty black fæces. The opening in the intestine was secured to the external wound. The patient recovered. This case differed from the other three in evidently not depending upon strangulation or ileus, but upon some growth, probably malignant, involving the wall of the intestine.

The reporter had recently the privilege of seeing a case in which Surgeon-Major Johnston performed abdominal section for intestinal obstruction, of twenty-nine days' duration, in a woman in the military fever hospital, Arbour-hill, Dublin. He is glad to be able to state that the patient made an excellent recovery.

The points which were urged by the authors of the several papers were mainly these:—

I. The operation should be undertaken, if all other means fail, in acute cases of not more than twelve or eighteen hours' duration, and in chronic cases in which there had been no symptoms of inflammation or strangulation of the intestine (Howard Marsh).

II. It is of great importance not to delay the operation until hæmorrhage occurs. The significance of the symptom has been

misunderstood. It has been supposed by some to indicate the commencement of the processes which lead to the sloughing and detachment of the invaginated part of the bowel. This is a mistake; but hæmorrhage is often evidence of extreme congestion and swelling of the part—a condition which might be fatal in itself, or render the operation a failure by making it impossible to reduce the intussusception when the cavity is opened (Hilton Fagge and Henry Howse).

III. It is probable that it will be found much easier to effect reduction by drawing the sheath downwards from off the contents than by drawing the contents upwards from within the sheath. The difficulty in reducing by traction results from the fact that the sheath becomes puckered up into rings, which act as so many strictures upon the contents. It is possible that, by attention to this rule, reduction may sometimes be effected without bringing the parts out of the abdominal cavity (Jonathan Hutchinson).

ON RESECTION IN DIFFUSE PERIOSTITIS.

In addition to a few cases which have already been reported, Prof. Spence publishes the notes of two cases,* and M. Duplay^b of one, in which the shaft of the tibia was removed after an attack of diffuse periostitis. The patients were young, being respectively ten, eleven, and sixteen years of age. In the first case, three weeks before his admission on the 27th March, 1875, the boy had been kicked on the shin. Periostitis and abscess followed, and on his applying for relief, the tibia was found exposed. He had lost a great deal of blood from repeated hæmorrhages. On the ninth day after admission Professor Spence cut down upon the tibia, separated the periosteum where it was still adherent, and having divided the shaft of the bone above and below by a chain saw, removed it in its entirety. The patient was discharged on August 8. The bone was then very strong, and the tibial ridge was only deficient at a point at which ulceration had previously taken place.

In the second case the patient was admitted on August 7, 1875, having been attacked by periostitis of the tibia six weeks before. Dead bone was formed both above and below. Four days afterwards the whole shaft was removed by separating the periosteum and resecting the bone immediately below the tubercle at its upper part, and at its lower end about an inch above the internal

* *Lancet*. March 11, 1876.

^b *Gazette des Hôpitaux*. Oct. 23, 1875.

malleolus. Later on a large sequestrum of the fibula was removed, and although the leg is not so shapely as in the first case, there is good deposit of bone, and the limb is strong.

Duplay's case was somewhat similar. The bone was divided at the tubercle above, and nine inches in all were removed. The recovery was perfect, and in four months the lad left hospital walking with a stick. The tibia had been reproduced, although about an inch short. The general opinion of those who took part in the discussion upon this paper at the Société de Chirurgie at Paris seemed to be that the bone does not perish, at least in its whole extent, unless the medullary tissue is involved. Holmes, who refers to this opinion, thinks it probable, but regards the point as of minor importance. All that is needed is to ascertain that the bone is denuded of periosteum in the greater part of its extent, and that the patient's condition requires surgical interference. The choice then lies between amputation and resection. No symptoms exist, as far as is known at present, by which the inflammation of the medullary tissue, if present, can be diagnosed. The success of resections is far less probable than that of those in which the whole diaphysis has become separated from the periosteum, and can, with a little gentle traction, be detached from its articular extremities.

Spence thinks the real advantages of the proceeding are:—1st. The early removal of a diseased texture which is injuriously affecting the health and keeping up irritative fever. 2nd. By removal of the diseased shaft to diminish the risk of the neighbouring joints becoming affected, thus necessitating amputation under the most unfavourable conditions. (In Holmes' case an abscess in the knee-joint was opened, and the patient recovered with permanent ankylosis.) 3rd. Obviating the risk of repeated hæmorrhages from enlarged periosteal vessels.

THE TREATMENT OF ANEURISM BY DIRECT COMPRESSION.

An extremely interesting case of the treatment of aneurism by direct compression is reported by Dr. Buckminster Brown, of Boston,* who believes it is the only one on record in which the closure of the artery, although commenced while the patient was recumbent, progressed and was completed while he was taking active exercise. The case first came under observation in 1863, the patient, who was aged about thirty-eight, having noticed a

* Boston Medical and Surgical Journal. Oct. 21, 1875.

throbbing in the right groin ten days previously. The tumour was about three and a half inches in diameter, involving the femoral artery at its exit from the abdomen. Direct pressure was determined upon, and the patient being in delicate health, was sent to the country, with directions as to the treatment he was to follow. He was ordered to place upon the tumour a bag of shot 10 lbs. in weight. Three times a day it was to be removed for an hour, and a bag of ice applied. This treatment was continued for two weeks, when the weight was increased to 15 lbs. He returned in a month, with the tumour slightly diminished. After some weeks a cannon-ball weighing 12 lbs. was substituted, and in a short time this was exchanged for one of 24 lbs; but this could be borne at first only for a few minutes. The weights were varied for some weeks, and then the tumour was found to have lessened in size, its parietes had become hard and comparatively inelastic, and the artery below was evidently diminishing in calibre. The patient was now able to bear the 24 lbs. cannon-ball constantly during the day, except when relieved by ice. A small aneurism of the dorsalis pedis appeared, but was cured by a bandage directly applied.

This treatment was continued for about eight months, and it was now resolved to apply the pressure in such a way as to allow of locomotion. A wide leather belt was fastened round the hips, and to this was attached a strap, passing from behind the trochanter to huckles over Poupart's ligament. A pad was adapted to the tumour, with a block-tin back. This pad was held in position by the strap passing through loops to the buckles. Gradually the patient recovered strength, and was able to attend to business in September, 1865, never removing the pad, except for purposes of dressing of excoriations and cleanliness. The patient suffered great pain in 1869, depending, as it afterwards appeared, upon the enlargement of collateral vessels. In May of the same year—nearly six years from the first observance of the disease—pulsation suddenly stopped in the tumour, and in July following pulsation was detected in the posterior tibial behind the inner ankle. In April, 1870, all apparatus was dispensed with, and from then until the period of his fatal illness he suffered no inconvenience from his imperforate femoral. He died of acute peritonitis in February, 1875.

At the *post mortem* examination it was found that the aneurism was fusiform, the cavity being filled by a clot somewhat adherent

to its walls. There was no appearance of lamination on section, but instead there was a firmly condensed tissue irregularly distributed throughout the friable portion, and enclosing the latter in small cavities. The internal iliac and its branches were much enlarged, the main blood-supply to the limb coming from the gluteal, sciatic, and obturator arteries. The aneurism closed the origin of the deep femoral, and the latter was filled through its anastomoses with posterior vessels of the thigh.

A unique preparation, showing the enlargement of collateral vessels in the lower limbs in cases of impeded circulation through the femorals is to be seen in the Richmond Hospital. It consists of the pelvis and lower limbs of a man in whom the femoral was ligatured on each side for popliteal aneurism. The patient recovered, and died many years afterwards of malignant disease, when the specimen was obtained after much trouble.

THE TREATMENT OF NÆVI BY CARBOLIC ACID, &c.

The treatment of nævi by injections of carbolic acid, as advised by Lister, has been tried with success by Mr. Messenger Bradley, of Manchester (*Brit. Med. Journal*, April 8, 1876). The tumour occupied a space two and a half by one and a half inches, and involved veins and capillaries. It was situated above and extended into the helix of the left ear. In order to avoid embolism, the mass was ligatured for ten minutes, underneath pins introduced at right angles, and five minims of pure carbolic acid were gradually injected here and there over the tumour. No change was observed for three weeks, until the operation had been done half a dozen times, and a ligature had been applied for six hours. Afterwards the tumour gradually subsided.

The skin recovered its colour in a remarkable way, and Mr. Bradley was induced to try the effect of treating the ordinary capillary nævus, or mother's mark, by tatooing with carbolic acid. In the only case in which he has tried it the port wine stains disappeared in about three weeks. He recommends it for further trial.

Bigelow^a records two cases of formidable erectile tumours obliterated by the injection of a few drops of solution of nitrate of silver dissolved in water, the proportions being equal parts by weight. If the tissues be firmly compressed about the orifice of the tube of the syringe, an eschar is produced, soon enveloped

^a Boston Med. Journal, Jan. 6, 1876, and Med. Record, March 15, 1876.

by coagulum adherent from inflammation, with general blood-stains in the neighbourhood. While the eschar is more distinct and firm than that of acid or of the perchloride of iron, the expression of the blood probably diminishes the danger of embolism. The ultimate result is abscess and solid cicatrisation.

It may here be noted that Durante (*Centralblatt*, No. 44, 1875) gives particulars of three cases in his own practice, in which the extirpation of nævi was followed by the growth of malignant tumours, commencing in the cicatrix.

ON THE TREATMENT OF WOUNDS BY THE OPEN METHOD.

In opposition to some of the principles which have been laid down by the advocates of the antiseptic method of dressing wounds, Dr. Dennis, of the Bellevue Hospital, New York, gives the results of twelve months treatment of wounds by the open method.* In 14 major amputations, besides resections of knees and elbows, &c., there was not a single death, although the cases were treated in wards which a year ago were abandoned because of an outbreak of puerperal fever. The object sought to be attained is the prevention of suppurative fever. After an amputation the flaps are left open, the stump being pillowed on oakum until the wound is nearly healed. A small piece of gauze is placed over the contour of the stump. No sutures are used except in the lateral skin flap operations; no adhesive plaster is employed; no oiled silk is placed over the stump; no bandage is applied. The stump is allowed to drain freely, and is frequently washed by means of an Esmarch's wound douche, the water being impregnated with crystals of carbolic acid. After this Balsam of Peru is poured over the granulating surface. When suppuration has nearly ceased the flaps are gradually approximated by adhesive plaster. No sponges are used, and so far as is possible each patient has a separate set of dressing instruments. Each dresser washes his hands in carbolic acid water before treating another case. The advantages claimed are the almost complete avoidance of suppurative fever, the prevention of abscesses in the vicinity of stumps, and the absence of erysipelas in the wound.

SECTION OF THE LATISSIMUS DORSI FOR LATERAL CURVATURE.

Professor Sayre, of New York, has already established his reputation as a sagacious and bold surgeon. One of his most recent proceedings, which may be regarded as an advance in practical

* New York Med. Journal, Jan., 1876. Lon. Med. Record, March 15, 1876.

surgery, is the subcutaneous division of the latissimus dorsi muscle in a case of lateral curvature.* The patient was aged twenty-two, and the deformity, which was very great, had originated in an inequality in the length of the two lower extremities, and had been increased by occupation. In the dorsal region the spine was deflected strongly to the right, the ribs were permanently bent and crowded together, and the muscles enormously developed on that side. The patient was suspended by straps placed under the axilla, when the latissimus dorsi of the left side was seen to come out prominently like a whipcord. Sayre holds, as a fundamental rule of universal application, that whenever a muscle is put fully upon the stretch, and then still further tension is brought to bear upon it, if a district muscular spasm is produced thereby, it is impossible to restore the muscle to its normal condition without dividing or rupturing the fibres. This test was applied in the case under review, and a spasm was produced as if an electric battery had been used. He, therefore, resolved to divide the muscle. For this purpose he had made a tenotome with an unusually long shank, and with this the operation was performed. The deformity was instantaneously greatly lessened, the slight wound was closed, and a roller applied. The patient was then put in bed on his back, and rubber bandages, attached to the sides of the bed, were passed round the dorsal and pelvic regions in opposite directions, so as to keep the divided muscle on the stretch while union was taking place. Later on a special apparatus would be applied. A photograph, taken twelve days afterwards, represents this patient as sitting upon the side of the bed with scarcely a perceptible trace of the previous marked distortion. In another case Professor Crosby has since divided the latissimus for Dr. Sayre with the best results.

NEW OPERATION FOR THE OBLITERATION OF DEPRESSED CICATRICES.

Mr. William Adams (*Brit. Med. Journal*, April 29, 1876) has devised a new operation for the removal of those unsightly cicatrices which so frequently follow the healing of glandular abscesses in the neck. In women their occurrence is specially unfortunate. The results attained in the cases reported are very satisfactory, the operation having in one instance been done nine years previously without any recurrence of the depression. The proceeding recommended is briefly as follows:—1. In subcutaneously dividing all

* Philadelphia Med. Times. Nos. 207, p. 65; 212, p. 187; and 215, p. 243.

the deep adhesions of the cicatrix by a tenotomy knife, introduced a little beyond the margin of the cicatrix, and carried down to its base. 2. In carefully and thoroughly everting the depressed cicatrix, turning it, as it were, inside out, so that the cicatricial tissue remains prominently raised. 3. In passing two hare-lip pins or finer needles through the base at right angles to each, so as to maintain the cicatrix in its everted and raised form for three days. 4. In removing the needles on the third day and allowing the cicatricial tissue—now somewhat swollen, succulent, and infiltrated—gradually to fall down to the proper level of the surrounding skin.

TREATMENT OF SUPERFICIAL VARICES.

Cazin,* referring to the treatment of these cases and the avoidance of phlebitis or pyæmia, recommends the following proceeding:—An incision, three centimetres long, is made parallel to the vein, and at a distance of one centimetre from it. At the two extremities of this incision two others are made transversely towards the vein and reaching to it. This flap is dissected up, and the vein is isolated by a blunt instrument. The flap is next passed beneath the vein and replaced in its original position and fastened, the vein remaining thoroughly isolated without any ligature having been used.

WOUNDS IN RELATION TO THE INSTRUMENTS WHICH PRODUCE THEM.

Dr. W. MacEwen^b publishes a paper under this heading which presents many points of interest, both to the surgeon and to the medical jurist. As casualty surgeon at Glasgow he has very excellent opportunities for observing a great variety of wounds, and he gives notes of over one hundred injuries inflicted chiefly upon the scalp. The weapons used were very various, and were nearly equally divided between blunt and sharp. The main conclusion at which he has arrived is, that in a large number of cases the wounds of the scalp produced by blunt instruments cannot be diagnosed by the ordinary tests of bruising or irregular outline. In these cases the soft parts are between two hard substances, the bone and the weapon. When the instrument is round, as a ruler, it will impinge against the scalp by a very narrow, straight band, sufficient in many cases to constitute of itself a straight sharp-edged split. In a

* *La France Med.*, December 20, 1875; and *Phil. Med. Times*, Feb. 19, 1876.

^b *Glasgow Medical Journal*. Jan., 1876. P. 28.

number of the wounds known to have been produced by blunt instruments it was noticed that entire hair bulbs were observed on the section. These were sometimes discovered by a lens. When the wound penetrated at an angle to the axis of the hair, the bulbs were found to project further across the wound and were more easily seen. A sharp-cutting instrument would not have left them exposed, but would have divided them in its passage through the tissue. The presence of nerve filaments, or small blood-vessels, stretching from the flap to the parts underneath, would also point to a similar conclusion.

He arrives at the following conclusions:—

“1. Blunt instruments sometimes produce scalp wounds having straight outlines and sharp clean edges, which in these respects could not be distinguished from wounds produced by sharp-cutting instruments.

“2. Scalp wounds, which exhibit entire hair bulbs projecting from the surface of their sections, have been produced by a blunt instrument.

“3. Wounds, exhibiting nerve filaments or minute blood-vessels bridging the interspace between the lips of the wound, toward the middle of the depth of the section, while the tissues have receded all round them below as well as above, have been produced by blunt non-penetrating instruments.

“4. When a wound, even with sharp well-defined margins, bears in contour a resemblance to an osseous ridge in close proximity, there is a *probability* that it was produced by a blunt instrument through forcible impact against the underlying osseous ridge.

“5. *Cut* hairs found in the immediate vicinity of a wound are valuable aids in determining whether a sharp or a blunt instrument has been made use of.

“6. As to the diagnosis between wounds produced by instruments of the knife kind and other sharp-edged substances, such as glass, earthenware, &c., no dependence can be placed on the mere regularity of outline or sharpness of edge, or the reverse.

“7. Sharp clearly-defined wounds in certain cases present peculiarities in their terminations which may be sufficient to enable a probable diagnosis as to whether they were produced by a knife or a portion of glass or earthenware.

“8. The same instrument, used by the same person in delivering several successive blows, may produce wounds of different character.”

PART IV.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

TRANSACTIONS OF THE MEDICAL SOCIETY OF THE COLLEGE OF PHYSICIANS.

SAMUEL GORDON, M.B., President.

GEORGE F. DUFFEY, M.D., Honorary Secretary.

Wednesday, April 12, 1876.

DR. GORDON, President, in the Chair.

The adjourned discussion on Dr. Hayden's paper on "Biliary Colic" was resumed.

DR. HAYDEN said the points he was desirous of having discussed by the Society were the possibility of confounding some cases of biliary colic with ordinary colic, with gastralgia, and even with abdominal aneurism, and also the best mode of treatment. The best remedies for the pain he had found to be the warm bath and hypodermic injections of morphia. It was very desirable to have free action of the bowels. With respect to preventing the returns of the paroxysm of pain, diet and exercise, he thought, formed the best means of averting them. No doubt, as long as calculi remained they should come away.

DR. GRIMSHAW said that since he had heard Dr. Hayden's able paper he had had an opportunity of applying some of the information which he had derived from it in a case under his notice which had been diagnosed as one of gastralgia. Dr. Hayden's remarks threw a good deal of light on the case and assisted him much in arriving at a diagnosis of biliary colic, although he did not get a calculus, more rapidly than he otherwise would have done.

DR. HENRY KENNEDY had observed that hydatid cysts of the liver exhibited similar symptoms to those produced by gall stones. He alluded to the case of a girl twenty-five years of age, apparently in

robust health, who was attacked with violent pain in the right hypochondrium, accompanied with very severe fever and constant vomiting. After a few hours a tumour appeared. The symptoms were exceedingly severe, and did not yield to treatment. She died at the end of thirty-six hours. On *post mortem* examination a very ragged biliary calculus was found impacted in the duct with surrounding localised peritonitis. The diagnosis of biliary calculi was not a simple matter. In a considerable number of cases most of the symptoms of biliary calculus presented themselves, but no calculi came away. He had repeatedly examined the bodies of persons who during life had experienced no pain or other symptoms of calculi, and had found the gall bladders quite full of calculi. It was only when a calculus got into one of the ducts that suffering occurred.

The PRESIDENT said that biliary colic might be mistaken for cholera. Some time ago he was called on to see a lady who, he was told, had been suffering from a sudden attack of cholera, but on examining her he had no doubt that it was biliary colic. She suffered from extreme and continuous vomiting, coldness of surface and collapse, which would have led some to suppose that she was suffering from cholera. The intermissions of pain and collapse were very marked, the recoveries from collapse being followed by attacks of intense pain, and these again being succeeded by collapse. During the attacks of pain, which were very agonising, he administered chloroform pretty freely, and at length with perfect success. He concluded that while she was under the influence of chloroform the spasms subsided, and at length the calculus passed through. He administered the chloroform four different times, as fast as she came out of the collapse, and it proved most successful. He did this in consequence of having been told by Sir D. Corrigan that a few nights before he was called on suddenly to see a nobleman who was suffering from intense biliary colic, accompanied with agonising pain and vomiting, but no collapse, and that the administration of chloroform completely relieved him.

DR. GRIMSHAW read a paper on "An Outbreak of Small-pox." [It will be found at page 405, in the number of this Journal for May.]

The CHAIRMAN (Dr. Hayden, Vice-President) observed that those who had seen epidemics, both of cerebro-spinal meningitis and of small-pox, must have observed the resemblance between the form of small-pox in which there was discoloration of the skin without pustulation and cerebro-spinal meningitis.

DR. HENRY KENNEDY observed that in cases of cerebro-spinal meningitis with purpuric spots, the suffering was far greater than ever he had

seen in any case of small-pox. In the former disease the pain was generally referred to the nape of the neck, whereas in small-pox it was for the most part referred to the lumbar regions. There might be headache in cerebro spinal meningitis, but it was not of a violent character. Many of the symptoms were certainly the same, but he was not aware that there was the suffering in the limbs in small-pox which frequently occurred in cerebro-spinal meningitis.

The CHAIRMAN said he quite agreed with Dr. Kennedy. He never saw a case of cerebro-spinal meningitis unattended by pains in the calves of the legs, and he should make a presumptive diagnosis from the presence of that symptom alone. Dr. Kennedy was also right in saying that there was greater suffering in cerebro-spinal meningitis than in small-pox. In the latter disease there was more or less apathy and prostration, while in the former there was moaning, and pain in various parts of the body.

DR. J. W. MOORE said that the paper read by Dr. Grimshaw afforded a striking example of how much might be done by an intelligent observer in investigating an outbreak of zymotic disease. It was clear that if the isolated cases he had mentioned had occurred in some country district a serious epidemic of small-pox might have been the result. Fortunately, they had occurred in Dublin, and were closely and accurately observed. In Dr. Grimshaw's inquiry into the facts bearing on this localised outbreak, they had in Ireland for the first time an example of that painstaking investigation of outbreaks of disease which had so signally crowned with success the labours of their brethren in England during many years. He could not but hope for great things from this. If they had a few men like Dr. Grimshaw working in this country for the elucidation of such outbreaks of disease, there would be an opening in future for preventive, as well as for clinical, medicine in Ireland.

After some remarks from SURGEON-MAJOR GORE and DR. J. A. BYRNE,

DR. GRIMSHAW, in reply, said the point of interest was the question of diagnosis between malignant purpuric small-pox and meningitis. He was unable to decide on the symptoms that distinguished these diseases. No doubt severe pains in the limbs were a usual characteristic of meningitis. On the other hand, he had met a considerable number of cases of meningitis in which those pains were not more significant than the ordinary pains of acute febrile disease, and those were the very cases in which black spots were present. Unfortunately, for some reason or other not known, but noticed by every writer on epidemics of cerebro-spinal meningitis, they had had a large number of cases of an extremely

malignant character amongst the Constabulary at Phoenix Park. Between fifty and sixty cases of cerebro-spinal meningitis occurred amongst those men; some of them were affected with purpuric spots, and in these cases the suffering was much less than where there were no spots at all. He accounted for this by the excessive depression which affected the patients at the onset of the disease. They were struck down and became insensible almost at once. Possibly the pains might have been present while the patients were too prostrated by the disease to express suffering, but certainly the suffering was not so great, according to his experience, in the black cases of meningitis as in the cases where there were no black spots. The man who came from America complained of general pains, such as were met with in cases of acute febrile diseases. He had nothing marked, except intense pain in the back, of which he complained very much. As to the spots themselves, they were raised in both diseases. They had a peculiar shotty feel under the fingers, and the only difference between them in the two cases was as to the site they occupied on the body. In meningitis the shotty spots—not the large black patches—appeared first, and were more common on the legs than anywhere else. In the case he had mentioned the spots were both on the legs and on other parts of the body, but were more thickly spread on the legs than anywhere else; whereas in meningitis the shotty spots seldom appeared there until late in the disease, although that part was occupied by large purpuric spots. For his part, he would not be satisfied to make a diagnosis, either from the position of the spots or from the nature of the pains. The spots themselves, he thought, did not differ at all from each other in the two diseases, as far as the naked eye or touch could discern. With respect to the observations of Dr. Moore on the preventive question, the care with which the case alluded to was followed up in Liverpool struck him as very remarkable. The records of every lodging-house were examined, in order to find whether a small-pox case had appeared in any one of them, and also the records of every ship that entered the port within the period of incubation. Such a thing, he need not say, would be impossible in this city. It turned out afterwards that the man, as Dr. Trench supposed, had not slept in Liverpool, but had come to Dublin the evening of his arrival in England. Another point on the preventive question was the relation between the means of modern transit and the spread of epidemic diseases. Here the man left America, and carried the disease right to Dublin, without contaminating any one on the way. He could not contaminate any one on the way, for he did not develop the disease until he reached Dublin, though, no doubt, he contracted it either in New York or Brooklyn. Out of forty-nine cases of purpuric small-pox in the hospital, seven recovered. It was a rare thing for such cases to recover, but he had since read in *The Medical Record* notices of other cases of that

description having recovered. Still their recovery was so rare that Dr. Collie, when speaking to him about them, said he had never had a case of that kind which recovered. He had heard, however, of other recoveries in the Mater Misericordiæ Hospital and in the Hardwicke Hospital, so that they had had a considerable number of recoveries in Dublin. But Dr. Collie told him that all the hospital cases of purpuric small-pox under his care died.

DR. CHURCHILL read a paper by Dr. King Kerr, entitled "Notes on some Epidemics in the District of Coagh, in the County of Tyrone." [It appeared in the number of the Journal for May, at page 442.]

DR. GRIMSHAW moved that the thanks of the Society be given to Dr. Kerr for his paper. He trusted that other gentlemen who made communications to the Society would not consider themselves slighted by this vote, but it was very important that gentlemen practising in remote parts of the country should be encouraged to send papers to the Society. Reports of local outbreaks of disease were instructive in many ways. The type of scarlatina referred to by Dr. Kerr appeared to be one of extreme malignancy. The conditions under which the people lived was a matter of great importance, as was exemplified during the recent scarlatina epidemic in Dublin. No doubt Dr. Kerr was right in attributing much of the fatality of the outbreak in his district to the bad sanitary condition of the village and the extensive use of whiskey among the patients and their friends. People, no doubt, might live a long time under unhealthy conditions without an outbreak of typhoid fever, but it was not the less probable that an outbreak of that disease would, owing to those conditions, eventually take place. The poisoning of wells and the soakage of the earth by sewage matter, which was a principal source of typhoid affection, took a considerable time. Gravelly soils were very soon contaminated. In Coagh the surface of the ground was formed of boulder clay, which would protect the water for a considerable time. He hoped shortly to bring the subject of the difference of soil-surfaces in Dublin before the Society. A large portion of Dublin stood on boulder clay without gravel, and another portion of it on the same description of clay with gravel, and he believed this led to a considerable difference in the mortality in diarrhœa and cases of fever, cholera, and other epidemics in those respective portions of the city.

DR. MACSWINEY seconded the motion, which was unanimously agreed to.

The Society then adjourned.

Wednesday, May 10, 1876.

DR. GORDON, President, in the Chair.

DR. GRIMSHAW read a paper on a "Case of Malignant Purpuric Fever." [It will be found at p. 520.]

The CHAIRMAN remarked that the case was an extremely interesting one. In some of these cases the cerebro-spinal symptoms appeared first, and then the purpuric eruption; while in others the purpuric eruption appeared first, and the cerebro-spinal symptoms ensued, and showed the true nature of the case.

DR. HENRY KENNEDY said a curious point in the case just submitted to them was that the temperature should have remained for several days so low. That might have been partly due to general nervous depression. The form of the eruption, the pains, and the temperature kept hand-in-hand. In most of the cases that he had seen the temperature was above the healthy standard. Some years ago he felt inclined to treat this disease more actively than Dr. Grimshaw stated he had done, and he had had no reason to alter his opinion since. Dr. Grimshaw was, no doubt, well advised in administering the bromide and the iodide of potassium, but he was in favour of a more antiphlogistical treatment. He never hesitated to apply leeches to the spine, and to give calomel and opium. Whenever the disease came under the influence of calomel he generally thought the patient perfectly safe. It would have been very interesting to know the state of the intestinal tract. He had seen some cases of epidemic fever in which the pains were as bad as ever he had seen them in cerebro-spinal arachnitis, although those pains afterwards passed away.

DR. GRIMSHAW said he had used very active treatment in cases of cerebro-spinal meningitis, but where purpuric symptoms presented themselves along with the other conditions he was not inclined to use mercury or leeches. He had seen a good deal of disease of the purpuric type in Steevens' Hospital, and he had found that stimulants and agents such as turpentine were the most beneficial. Iodide of potassium had also proved a useful remedy. He did not say that mercury might not be usefully employed in many cases where there were no purpuric symptoms, and the depression was not great, but he should not like to use it in such a case as he had described. He believed that if he could have examined the intestines in the case reported he would have found congestion. In other cases of the sort he had found congestion not only of the intestines, but of all the abdominal viscera. He had never met with such obstinate diarrhoea as presented itself in the present case. Lymph was effused on the cord, but not in such great masses as he had seen in other cases; nor

was there any very considerable diffusion of the fluid. There was very active congestion in the anterior portion of the cord, and the lymph that existed was all below the middle of it. The case was like one which he lately submitted to the Society,* in which one of the symptoms of cerebro-spinal meningitis was chiefly manifested in the upper part of the cord.

SURGEON-MAJOR GORE read a paper on "A Case of Typhoid Fever." [It will be found at p. 513.]

DR. FINNY observed that no proof had been given that the woman caught the enteric fever from the patient she attended. She had been living for four days with her, and might have got the disease from the same cause that gave it to her patient. Unless it were shown that Mrs. S. did not drink impure water, or that she was not exposed to effluvia or other emanations, such as were usually believed to produce enteric fever, the case of contagion would not be made out. As to the tubercular stage, he thought that what had been stated about that had not been made out either, as it did not appear whether she had suffered from tuberculosis or not. The woman was still alive, and, therefore, was presumably better. That she had had degeneration of the apices of the lungs was plain enough.

DR. FOOT said the well reported and accurately observed case which they had heard, bore out the views which had been expressed by Dr. H. Kennedy as to the connexion between enteric fever and struma. By adopting the middle term "struma," they steered clear of tuberculosis. The case had been described as one in which there were evidences of a strumous constitution, and the occurrence in the patient of enteric fever bore out the observations of Dr. Kennedy. From his observation of *post mortem* examinations, he had found that in nearly all the acute cases of enteric fever terminating in perforation the patients were persons of eminently strumous constitutions. He was sure that Surgeon-Major Gore, although he spoke of tubercular phthisis, meant what was commonly known as strumous phthisis. He (Dr. Foot) did not, of course, say that enteric fever was confined to persons of strumous constitution. He agreed with Dr. Finny as to the difficulty in tracing the origin of enteric fever.

DR. HENRY KENNEDY said he was glad to find that Dr. Foot bore out the views he put forward in a paper read seven years ago before the Society, in which he pointed out the close connexion that existed between typhoid fever and tuberculosis. Since that time he had seen cases of tubercle in which that disease was lulled by treatment, and in a year or two afterwards the patients, who bore evidence of struma, such as

* *Dubl. Journ. of Med. Science.* Vol. LXI., p. 405.

corneitis and scars left in the neck by strumous abscesses, got phthisical symptoms. Nothing was more important to keep in mind in a case of typhoid fever than the probability of its running into phthisis, whether strumous phthisis or the more common form of tubercle. In Surgeon-Major Gore's case it was more than probable that it was pneumonia that attacked the apices of the lungs. Struma was capable of assuming the forms both of isolated tubercle and pneumonia. The frequency of hæmorrhages in cases of this sort was another proof of the strumous origin of the disease. He had seen a case in which a patient threatened with phthisis had hæmoptysis, and two years afterwards that patient died of well-marked and acute enteric fever, with hæmorrhage from the bowels.

DR. GRIMSHAW said the relation between typhoid fever and pneumonia and phthisis combined, raised a very wide question. That typhoid fever was frequently complicated with pneumonia was known to every one. He had paid special attention to the subject, in conjunction with his friend, Dr. J. W. Moore, and they had ascertained that that complication was more common than was generally supposed.* The two diseases, enteric fever and pneumonia, went hand-in-hand. As to the relation between enteric fever and phthisis, enteric fever was frequently followed by phthisis, because the former was frequently accompanied by pneumonia, just as pneumonia in other cases was frequently accompanied by phthisis. He did not believe there was any direct connexion between enteric fever and phthisis. It was the explanation of the pneumonia that they required, more than the explanation of the phthisis. They certainly met with enteric fever in strumous people, but it attacked numerous other people that were not strumous; and he believed the facts would show that people who were not strumous did not get phthisis after enteric fever. The enteric fever being frequently accompanied by pneumonia, if the pneumonia arose in a strumous individual, that person would probably be afterwards attacked by phthisis. If the person was not strumous the pneumonia would pass away with the enteric fever and leave the person perfectly free. The frequency with which enteric fever patients attacked by pneumonia recovered was well known—plenty of such cases got perfectly well. He thought it would be found that it depended on the constitution of the patient whether the pneumonia passed off easily or degenerated and ultimately ended in phthisis. He was not at all prepared to believe that enteric fever was more common in strumous people than in others. It was certainly more fatal in such patients, but so were other diseases. The disease might attack strumous people more than other people, simply because they were more delicate; but that there was any reason to believe that, other things being equal,

* *Dub. Jour. Med. Sci.* Vol. LIX., p. 399.

persons of strumous constitution were more liable to enteric fever than to other forms of zymotic disease, he would be sorry to affirm, and for his part he did not believe it. They found that enteric fever attacking strumous people was, in some cases, followed by marasmus, owing to the effect it had on the mesenteric glands, and to the destructive changes it produced in the intestines and the glands connected with the mesenteric glands. He had met with many cases in which marasmus followed enteric fever. He believed that this bore the same relation to enteric fever that phthisis did. The marasmus was not the direct result of the fever, but was owing to the effect that the disease had on the glandular structures which, when they degenerated, gave rise to the marasmus. In the same way he had met cases of enteric fever which were followed by tuberculosis. The long continuance of the fever produced disease of the mesenteric glands, which became caseous, and produced poisonous effects on the general system, and that ended in attacks of acute tuberculosis. He was, of course, assuming that certain views as to tuberculosis were true. Another point worth looking at was as to the relative health of localities. It had been ascertained by Mr. Simon that enteric fever, diarrhoea, and cholera, all diminished in localities where the general conditions of drainage and water supply had been materially improved; and that along with that diminution the death-rate from phthisis diminished. From this it would, on the first glance, appear that enteric fever, cholera, and diarrhoea had a common cause; but the fact might be explained in another way. Where enteric fever prevailed it was sometimes accompanied by a low form of pneumonia dependent upon miasmatic causes, and this of necessity produced a certain amount of phthisis. The same cause that produced the enteric fever produced the pneumonia, and the latter produced the phthisis. Of course phthisis was more liable to occur in strumous constitutions than in others; but it was carrying the thing too far to say that strumous people, because they were strumous, were more liable to enteric fever than other people. The only liability was that their general delicacy made them more liable than others to anything that was going. As to the question of contagion, many people thought that enteric fever was not contagious at all. He did not concur in that opinion. He thought that Surgeon-Major Gore had, to a certain extent, established the efficacy of contagion as a cause of enteric fever by the method of excluding all other causes. He did not think there was any other way of getting it, and that therefore the patient must have got it at Beggarsbush Barracks. She must have got it there for either of two reasons. One was that she attended a patient who had the fever; and the other was that the causes that produced enteric fever were supposed to be prevalent in that neighbourhood. But as there did not appear to be a considerable number of cases of enteric fever in the barrack at that time, he thought that where a person in

close contact with a patient in enteric fever got the disease shortly afterwards, the case might be set down as one of contagion. He had met with two cases of enteric fever which, he believed, arose from contagion. One was that of a nurse in Cork-street Hospital who got the fever and died of it, and who, he believed, could not have got it from any other source than the patients; and the other was that of a patient in Steevens' Hospital, a constable of the Royal Irish Constabulary, who, after recovery from measles, and when about being discharged, kindly undertook to assist the nurses in looking after a comrade of his who had enteric fever in an adjoining ward. He contracted that disease and died of it. There was no reason for supposing that he could have got enteric fever from any other source.

SURGEON-MAJOR GORE, in reply, observed that Dr. Fox, in a recent paper in *The British Medical Journal*, gave three or four cases of enteric fever contracted by contagion. The woman whose case he (Surgeon-Major Gore) had mentioned did not live in the house with the patient whom she attended; she only went in the morning, and returned in the evening. The water supplied in the patient's house was the Vartry. With respect to his use of the term chronic tuberculosis, he should probably have said destructive lung disease, embracing all the various forms of phthisis. He did not think there were any signs of pneumonia in the case he had submitted. In fact, all the symptoms pointed to the ordinary tubercular form of phthisis. There was hæmoptysis, and the whole appearance of the patient pointed to chronic tubercle. He had seen a great number of cases of pneumonia co-existent with typhoid fever, and if there was no struma in the constitution the rule was that the patient got well.

DR. NIXON detailed a case of "Paracentesis Pericardii." [This paper will be found at page 525.]

DR. HUGHES could vouch for the candour and accuracy of Dr. Nixon's description. He had seen the patient from time to time, and could bear testimony to the improvement which resulted from the operation.

DR. M'VEAGH said a case had come under his notice of large effusion into the pericardium, resulting from acute rheumatism long after the affection of the joints had ceased. He recommended the operation of paracentesis, but was overruled. The patient afterwards died suddenly.

DR. HAYDEN said that this case was the first that had been brought under the notice of any Irish medical society, and the first that had occurred in Irish medical practice. He had seen the case before the operation, and he believed that but for it the man could not have survived

twelve hours. The advisability of the operation depended on two sets of circumstances—first, the urgency of the case and the failure of other modes of treatment; and, secondly, the confidence of the practitioner in the accuracy of his diagnosis. Before attempting so formidable an operation, and one of which they had had so little experience, and the general results of which had been so unfavourable, every judicious practitioner would exhaust every other means. As to diagnosis, he did not know of anything that could be more confidently determined than a case demanding an operation of this kind. He had thought a good deal over the matter, and his disposition was not to find fault with Dr. Nixon's procedure, but, as a general rule, he would be inclined to modify it, rather from the results of the operation in other cases than from the result in his. He would be strongly disposed to place the patient somewhat diagonally towards the right side, in order that the weightier body—the heart—might gravitate in that direction, and that the fluid might accumulate between the two layers of the pericardium, and that the puncture should be made a little towards the left side, somewhat behind the fold of the axilla. He had been for many years waiting for an opportunity of performing this operation.

The CHAIRMAN agreed with Dr. Hayden, that pericardial effusion to a large amount was a disease capable of most certain diagnosis. He had long ago made up his mind that if a case of pericardial effusion to a large amount presented itself to him he would certainly tap the patient. In a case which he had met with some years ago he desired to perform the operation, but the patient would not consent to it, and died, as they usually did in such cases, within about forty-eight hours. He was so satisfied with the accuracy of his diagnosis that he performed the operation *post mortem*. It was a case of pericarditis, with effusion to a large amount of a bloody character.

DR. HENRY KENNEDY said he could not entirely concur in what had been said as to facility of diagnosis. It frequently happened that the effusion was not limited to the pericardium, but also involved the pleura, and it was not easy to distinguish the pleural from the pericardial effusion. He had been surprised to find large effusion into the pericardium and also into the pleura at the same time, and he had been puzzled to decide, *ante mortem*, whether the effusion was into the pericardium or not. If the pericardial effusion was exceedingly large, it was because there was also effusion into the pleura. If the effusion was confined to the pericardium the diagnosis was simple enough; but he believed that that was not generally the case.

The Society then adjourned to next session.

PROCEEDINGS OF THE DUBLIN OBSTETRICAL SOCIETY.

THIRTY-EIGHTH ANNUAL SESSION.

LOMBE ATTHILL, M.D., President, in the Chair.

J. RUTHERFORD KIRKPATRICK, M.B., Honorary Secretary.

Saturday, April 8, 1876.

THE PRESIDENT.—I have to exhibit a specimen of exomphalos—a comparatively rare abnormal development of the fœtus. This child was born in the Rotunda Hospital a few days ago. The labour was not attended with any difficulty, as you can imagine from the small size of the fœtus. This, of course, is a case of congenital exomphalos. The whole of the intestines and liver are protruded through the umbilicus, forming a tumour of considerable size, as compared with that of the fœtus itself. The envelope of the mass is composed of the integuments of the umbilical cord, and, as is usual in such cases, the vessels of the cord appear to be divided, one running at either side of the mass. We generally find the umbilical vein running posteriorly, and an artery at each side.

The envelope is transparent, and the liver, as you see, is very enlarged. The stomach is small and rudimentary, but the large and small intestines are perfect. The whole abdominal contents appear to be outside the abdomen, with the exception of a very small portion. When the child was born you could clearly see the entire contents of the tumour through the envelope. In this case, on account of the small size of the fœtus, the labour was exceedingly easy, but cases are met with in which these tumours are so large as seriously to impede the birth of the fœtus, and to perplex much the accoucheur, who is at a loss to comprehend the nature of the case with which he has to deal. The only case of exomphalos recorded in "The Transactions of the London Obstetrical Society" is that of an adult female, in which the entire mass was protruded through the umbilicus while she was pregnant.

DR. BYRNE.—A case came under my notice in which the tumour was four times as large as that in the present case, and yet the child was born alive. The fœtus was also very large, and was acephalous. The question arises, whether the tumour was the cause of the death of the fœtus

in the case that the President has shown? and also, whether the tumour led to any gangrenous affection? The infant appears to have died in some convulsive effort.

The PRESIDENT.—At the birth the infant appeared to have been dead for some time, for putridity was commencing. According to the woman's statement, she was about six months pregnant.

The Originator of the Double-curved Midwifery Forceps. By A. H. MCCLINTOCK, M.D.

DR. KIDD at a recent meeting started the question as to who it was that gave to the midwifery forceps the second or pelvic curve? Nearly all the English, American, and Continental writers, on the history of the forceps, give the credit of adding the pelvic curve to Levret or Smellie.

The pelvic curve was, perhaps, the most important change in the construction of the forceps that the instrument underwent since its first invention. More controversy has raged round this curve, as to its advantages or disadvantages, than upon any other point in connexion with the forceps. It is, therefore, worth while to spend a few minutes in inquiring to whom belongs the credit of this discovery, no matter whether we regard it as important or unimportant. As Levret is the author to whom the credit of the invention has most frequently been given, I will advert to his claims first. I have not seen the first edition of Levret's celebrated work on difficult parturition. The copy I have is the third edition of the work, and is dated 1762; and I also have the first edition of a sequel he published in 1751 to his original treatise. I have ascertained, from Mulder's reference to it, what the first edition of his work contained on the point under consideration. It seems that in the work of Levret just referred to, and published in 1747, he mentioned that he had given the forceps a new curve. Mulder says:—"We have seen that Levret, in the year 1747, had indicated that he had given the forceps a new curve—*novam curvituram*—but which he kept secret—*quam vero reticuisse*"—that is, he gave no figure or description of it. This silence was the cause why a certain anonymous critic raised a question concerning the figure or shape of this curve, and sharply suggested that this imaginary curve should be made public. It appears, I think, clearly from this that in his first edition Levret did not give either any delineation or any description to indicate what this new curve was. In his "*Suite des Observations*," &c., which he published in 1751, he fully describes and pictures the pelvic curve.

The first edition of Smellie's great work on Midwifery appeared in the latter end of the year 1751. The date in the title page is 1752, but the work must have come out in 1751, for I myself have read the review of it

which appeared in *The British Register* for October, 1751, so that I suppose the author did what other writers have done, and what I once did myself—namely, dated his work from the coming, and not the expiring year. Smellie's reference to this pelvic curve is to be found in the observations upon a case occurring in 1752. In his narration of it he tells us that the child was delivered by the lower extremities, but that the head was retained in the pelvis, and that he encountered unusual difficulty in extracting it. After pulling and dragging at it for a long time, he says:—"I stopped in the middle of these efforts and attempted to extract with a short, straight forceps; but the head was above the brim of the pelvis, and the curvature of the os sacrum prevented their taking a proper hold so as to be of any service." He adds:—"This was the reason which prompted me to contrive a larger kind, the blades of which are curved to one side" (that is, the pelvic curve). Again, in another case, under date, 1753, of a like kind where the head was retained in the pelvis, the body and arms being extracted and delivered, finding that there was still pulsation of the arteries of the cord, and being afraid of losing the child by over-straining the neck, he adds:—"Although I had failed with the short, straight forceps, as in the case previously mentioned, yet I resolved to try a larger pair that were curved to one side to suit the curvature of the os sacrum. They were contrived some years ago by myself, as well as other practitioners, on purpose to take a better hold of the head when presenting, and high up in the pelvis; but I do not recommend their use in such cases for fear of doing more harm than good by bruising the parts of the woman where too great force was used." He makes no reference whatever to Levret as being the inventor of this second curve. I may just mention that Smellie was not a man disposed to deprive any author of the credit belonging to him, for all through his writings he acknowledges what others had done, and freely quotes La Motte, Ould, Mauriceau, Mesnard, and other writers that went before him, giving to each their meed of praise and approbation, and never appropriating to himself any credit or merit for the discoveries and improvements he had made in the art of midwifery. In point of time there does not seem to be much difference between Levret and Smellie; and it is quite possible that each may, independently of the other, have hit on the same modification.

There is another old English writer, a contemporary of Smellie's, whose treatise on Midwifery is very little known or quoted; but from my study of his book I am led to think he was one of the most sagacious practitioners of the age in which he lived, though brief and terse in his style of writing. This writer is Benjamin Pugh. He was a provincial surgeon, and practised at Chelmsford, in Essex. His treatise on Midwifery is in the very valuable collection of obstetrical and gynaecological works presented to this college by Dr. Churchill. It was published

in 1754. Pugh says in this preface, "I shall be as particular as possible in the description and use of all the instruments, both of midwifery and surgery, which are my own invention. Their good effects I have experienced many years; and by the help of these on midwifery I have succeeded in deliveries without opening one child's head for these fourteen years past, and that I doubt not but every practitioner will be soon sensible of their advantages. The curved forceps I invented upwards of fourteen years ago" (that would have been about the year 1740), "made me by a man of Mr. Archer's, cutler, now living in Chelmsford. The preference between them and the common, straight forceps, in every respect, is great." Pugh was, without doubt, an ardent advocate for the use of the double-curved forceps. He had a long and a short forceps, both provided with the second or pelvic curve. The one was 11 inches long, and the other 14. In three different places in his work he reiterates the remark about having used this double-curved forceps for fourteen years. He says:—"If the head is detained above the brim of the pelvis, or but a small part of it advanced, and it appears that the woman's strength is so far spent that she cannot go through the fatigue of turning the child, then the curved forceps will answer, for with their help in these cases, and with turning where the strength of the woman would permit, I have never opened one head for upwards of fourteen years." From all this, then, I am induced to think that the merit of this change in the construction of the forceps is really more due to Benjamin Pugh than to anyone else whose name has been brought forward in connexion with it; for it would appear that in 1740, which was seven years before Levret gave any intimation whatever that he was acquainted with the double-curved instrument, Pugh had constructed, and was using a long and a short double-curved forceps. In the preface to his "*Suite des Observations*," &c., published in 1751, Levret gives the copy of an entry in the Register of the Académie Royale of Surgery at Paris, of the 2nd of January, 1747, which states that Mons. Levret had presented to the Academy a new curved forceps, designed for the disengagement of the head of an infant which had been locked in the passage, &c., &c.

This certainly shows that in 1747, beyond all question, Levret established his claim to the invention. Now, although we must admit that the priority of publication belongs to Levret, still, if we go fairly into the history of the matter, Pugh is the man who seems to have the strongest claim to the priority of invention of this important modification of the forceps.

I have assumed that Pugh wrote his book under the date (1754) at which it was published. But it is more than possible he wrote it four years before this, for he tells us in the preface that he "intended publishing this treatise four years ago, which I attempted by subscription, but it did not fill," &c. If this be so it will carry us back to the year 1750 as the

year in which he constructed the forceps with a second curve. I have said that nearly every writer whose works I had seen claimed the discovery of the pelvic curve for Levret, or for Smellie. I must here, however, make an exception in favour of the learned Johanne Mulder. In his notice of Pugh, he mentions Pugh's own statement that he had been using the double-curved forceps for fourteen years prior to the publication of his treatise.

THE PRESIDENT.—It is not always the man who deserves the most credit that gets it, and it now appears that, while other eminent men have obtained the honour of this improvement, which has now been so long in use, Dr. Pugh, who appears to have been using it at the same date that they did, if not prior to them, has been neglected. I think we are under great obligations to Dr. M'Clintock for this interesting communication.

DR. KIDD.—I am very glad that a chance remark of mine a few evenings ago has drawn forth this communication from Dr. M'Clintock. I was then very much under the impression that Levret was the author of this pelvic curve. I confess that I had not looked closely into the matter, but I had on more occasions than one tried to make it out. I had not taken the pains that Dr. M'Clintock did, and the conclusion that I came to was that Levret was really the author of this curve. I believed that it lay between him and Smellie. What led me to attribute it to Levret was that I believed his book was published some four years before Smellie's. However, there can be no question, from the facts laid before us by Dr. M'Clintock, that Pugh was really the author of this new curve. In none of our books that I know has the matter been clearly stated. I do not think that Pugh's claim was ever put forward before. The honour of the invention has always been left between Smellie and Levret, and I think it is a matter of great literary importance that we should have established that it really belongs to Pugh. The quotation that Dr. M'Clintock has read from Smellie's book shows that he himself did not claim it, for he says that he and other practitioners designed it.

DR. MORE MADDEN.—I think the Society owes a debt of gratitude to Dr. M'Clintock for his communication. It relates to a subject which is not only of literary and antiquarian, but of great practical, interest, because the question of the advantages of the double-curved forceps is one which is at the present day engaging very much attention. As in the case of a great many other instruments employed in midwifery, we find from the history of the forceps that modern discoveries were anticipated by old writers, and it is really a question of great interest to trace back those instruments to their originators. There is not alone an interest in tracing

back to those from whom we have stolen, but there is a great deal to steal from yet. Instruments have been figured by a great many old writers that have been since appropriated and brought out as new ones, and there are a great many other instruments mentioned by the old writers that have not been used, and those who are fond of plagiarising may still hope to profit by following in the footsteps of those who have plundered from the writers of the last two centuries.

DR. BYRNE.—It can scarcely be imagined that the French borrowed from the English at the period of this invention, because the French were then extremely unacquainted with English literature. Even at the present time they are not so well versed with English literature as the English are with their literature. We know that in the case of inventions the same ideas often simultaneously suggest themselves to different persons, and it is quite possible that Levret had the idea of the pelvic curve just at the same time that it suggested itself to Pugh. I was not aware myself until to-night that Pugh was the English inventor of it, but I scarcely think it would be fair to detract from the merit of Levret as an inventor of the pelvic curve. At the same time I think all honour ought to be given to Pugh. It is remarkable that from the time of the invention of the pelvic curve the French obstetricians have almost invariably used it up to the present day. I am not aware that they have used the straight forceps at all. The main fact is, that from the time of Levret the French have adhered to the pelvic curve.

EPILEPTOID SWEATING.

EMMINGHANS reports two cases of paroxysmal sweating of an epileptoid nature. The first case was that of a woman who in childhood had had epileptic attacks. These disappeared at the time of puberty. The attacks of sweating, which were accompanied by giddiness, commenced about the climacteric period. She presented the marks of the epileptic disposition, such as a peculiar expression of face, peculiar conformation of head, and contraction about the angles of the mouth. The second case was that of a student who had never before had epilepsy, but who had suffered from attacks of lividity, difficult respiration, and loss of consciousness and of memory. He also presented a peculiarly-formed skull, and came of a family in some of the members of which nervous diseases had occurred. In him the sweating was not accompanied by giddiness. After a continued abuse of alcohol, on occasion of bodily exertion, combined with mental excitement, he had distinct epileptic fits. These two cases bear out Griesinger's statements, that often sweating, breaking out suddenly, is the mark of an epileptic disposition.—*Vierteljahrsschrift f. d. prak. Heilkunde.* Bd. 128, S. 49. J. M. P.

PROCEEDINGS OF THE PATHOLOGICAL SOCIETY OF DUBLIN.

President—HENRY KENNEDY, M.B., F.K.Q.C.P.

Secretary—E. H. BENNETT, M.D.

Cystic Disease of the Ovary.—DR. KENNY said: The tumour I have the honour of laying before the Society was taken from a woman aged forty-five, the mother of three children, the youngest of whom is now aged nine and a half years. She was under my observation as an out-patient, attending Coleraine-street Dispensary, for about eighteen months, and informed me, when I first saw her, that about nine years ago, shortly after the birth of her last child, she first began to complain of a hard lump situated in the left iliac region. This tumour gradually increased, taking an upward direction, till about two years ago, when she sought the advice of Dr. Kidd, at the Coombe Hospital. To his kindness I am indebted for the following notes descriptive of her case at that time, taken from the Hospital Case Book, dated November 11th, 1874:—"Mary Tuohy, aged forty-five, of 3, Mountrath-street, married thirteen years, has had three children—the last about eight years ago; has always enjoyed good health; menstruation ceased about twelve months since. Soon after birth of last child she noticed herself becoming enlarged, and that the enlargement continued steadily to increase. About five years ago she was admitted into the Whitworth Hospital, under the care of Dr. Lyons, and remained there for about fourteen days. While in the Whitworth, Drs. Lyons and Stokes advised her to undergo an operation. She did not consent however, and on leaving she went to the Rotunda Hospital, where she was examined by Dr. Churchill, who also advised operation. On examination a tumour is felt, which fluctuates all over the abdomen. A solid mass is felt between right hypochondrium and umbilicus, with what appears to be a layer of fluid covering it. The whole anterior surface of abdomen is dull on percussion, as patient lies on her back, but clear in right and left lumbar regions and epigastrium. The following measurements were taken:—Circumference of abdomen at umbilicus, 42 inches; length from ensiform cartilage to pubis, 18½ inches; length from ensiform cartilage to umbilicus, 12 inches; length from umbilicus to pubis, 6½ inches; length from anterior superior spine of ilium on either side to umbilicus, 10 inches."

On my first visit to her I found her much in the same condition as described in Dr. Kidd's notes, being apparently somewhat larger than

described therein however, but I took no measurements. She now sought relief from flatulence, occasional attacks of gastritis, and dragging pains in stomach. She also informed me that from time to time she had copious discharges of clear fluid through the vagina, followed by more or less diminution for the time being of the stomach. She suffered also occasionally from leucorrhœa. She made a request of me, rather unusual for one in her (or, indeed, in any) rank in life—viz., that should she be still under my care at the time of her death, I was to make a *post mortem* examination. As I considered the case presented favourable circumstances for operation, I advised her to again see Dr. Kidd, to obtain his opinion on the subject, but she met me with the objection that he had already advised against such interference, a misapprehension on her part I afterwards ascertained, as Dr. Kidd had in reality given her the advice dictated by reason and experience in such cases, not to have the removal of the tumour attempted so long as her health remained not very materially injured by its presence. She continued to follow her usual active habits of life, enjoying very tolerable health, with exceptions above-noted, till the 21st December, 1875, when I was called to see her, and found her suffering from very severe pain in the abdomen, accompanied by vomiting, tenderness on pressure in the epigastrium, and flatulence. These symptoms gradually disappeared, and when I visited her on the 24th, I found her very much improved, the bowels having acted well during the morning. I did not again see her till the 27th December, when I was suddenly sent for, and I found her exhibiting all the symptoms of obstruction of the intestines. She was in a state of collapse, almost pulseless, and rapidly passing into a state of insensibility; she had for some hours been vomiting bilious and stercoraceous matters, and had had no movement of the bowels since that mentioned on the 24th. She sank rapidly, and died at 3 p.m. Dr. Kidd most kindly lent me his advice and assistance in making the *post mortem*. Immediately before opening the abdomen we ascertained that its circumference at umbilicus was 50 inches, but I think 4 or 5 inches of this must be allowed for gaseous distension of the peritoneal cavity. The tumour was found to fill the peritoneal cavity, and to be free from attachments, except that it was connected by its superior surface to the liver by a round ligamentous cord, about 5 inches long; and a coil of intestine passed round the rather long and narrow pedicle, and was connected thereto and to the neighbouring portion of the tumour by old and firm adhesions. In order to remove the tumour it was necessary, after dividing the pedicle, to ligature the intestine above and below same, and remove the intervening adherent portion with the tumour. The point of insertion of the cord above-mentioned on the superior surface of tumour corresponded with the seat of the pain felt in epigastrium. The attachment of the intestine round the pedicle would evidently have presented a very

formidable obstacle in operating for the removal of the tumour in this case, which, I think, in other respects presented favourable circumstances for such interference, there being no other adhesions, the kidneys being quite healthy, and in their normal positions. The tumour, on being opened, was found to consist of a single cyst, filled with clear serous fluid to the extent of several gallons, and collapsed at once to a very small volume. The points of interest in the case appear to be the adhesions already mentioned, and the mode of death, which arose evidently from obstruction of the intestine, caused by its attachment to the tumour and its pedicle, flatus in its upper portion causing the tumour to press suddenly on it at this point. The intestine was not gangrenous.—*January 8, 1876.*

Gangrene of Lower Extremity, resulting from Pressure of an Ovarian Tumour.—MR. FITZGIBBON said: The case which I have the privilege of bringing before the Society is one of senile or Pott's gangrene, which I think it worth while submitting for two reasons. In the first place, it ran a very unusual course; and in the next, I think the immediate exciting cause of the gangrene was an unusual one. The subject of the disease was a woman named S. H., unmarried, and aged upwards of seventy years. She was admitted into the City of Dublin Hospital on the 6th of March, 1875. She was then in the following condition:—The fourth toe of the left foot was livid, the nail was loose, and the cuticle had separated; and the limb was, to use the expression of Pott, "horridly painful." The foot was deformed, being an example of congenital kyllosis, but I do not think this condition had any bearing upon the occurrence of the gangrene. Her tongue was foul; her bowels were constipated and loaded with fæces, no motion having taken place for more than a week. On examining the abdomen I found that there was in it a large tumour. At first I thought this was entirely an accumulation of fæces; it was so to a certain extent; and several of my colleagues concurred in the opinion that the tumour arose from an accumulation of fæces in the bowels. I gave her copious enemata and aperients; these means removed large quantities of hardened fæces, but a considerable tumour remained in the region of the sigmoid flexure. A ten-grain solution of hydrate of chloral was applied to the foot. I also exhibited opium as soon as the bowels were freed; but the woman refused to continue taking it, as it produced sickness and headache. She then got repeated hypodermic injections of morphia in lieu of the opium. During ten days after her admission the disease rapidly advanced. The blackness extended from toe to toe until they were all engaged. The foot became intensely painful up to the ankle-joint. The whole foot assumed a marble appearance; the skin vesicated and the epidermis separated up to the leg; to all appearance the disease had extended above the ankle-joint,

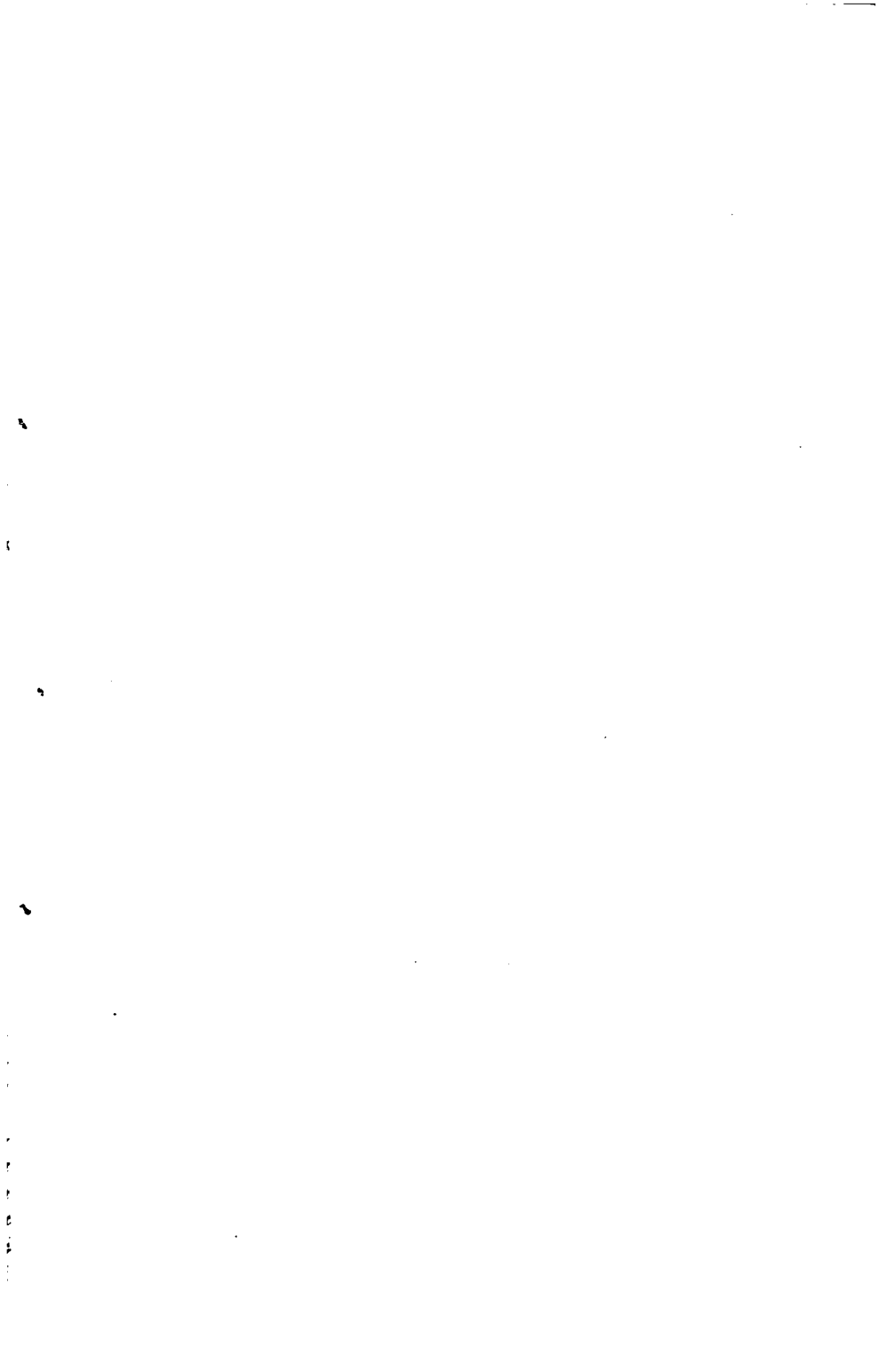
and I thought that the foot was irreparably lost. There was one remarkable feature about it. Although the disease appeared to be extended above the ankle-joint and the whole foot appeared to be involved, yet the affected foot retained a higher temperature than the opposite one. It did not assume the remarkable coldness of a foot about to become gangrenous. Under the treatment which had been adopted of keeping the bowels open and administering hypodermic injections of morphia and applying chloral lotions to the foot, the pain suddenly ceased, and the constitutional symptoms, which had been accompanied with a great deal of fever, disappeared. The foot became less swollen; the cuticle separated, leaving a healthy skin underneath; and the foot completely recovered, although the toes remained black. In spite of the removal of a large quantity of accumulated fæces there still remained an abdominal tumour in the left pubic and iliac regions, which we were unable to get rid of. This tumour was now supposed to be a fibroid tumour of the uterus. I discovered for the first time now that it had an old history. The woman herself had been aware of its existence for a number of years; and in 1872 she had an attack of pain in the abdomen, and was then seen by a physician who thought that she was suffering from cancer of the uterus, and that it would rapidly cause her death. She recovered from this condition, but the tumour remained. She was afterwards seen by Dr. McClintock, who told me that he believed it to have been a fibroid tumour of the uterus. From the period of the cessation of the pain the progress of the case was very slow. The toes became mummified and separated, and on the 1st of September, nearly six months after the first onset of the disease, the last, the great toe, came off. I took it off with a dressing forceps. During the whole progress of the separation of the toes no remarkable event occurred, except that on two occasions the limb was attacked with erysipelatous inflammation, which was distinctly traceable to premature attempts made by myself to remove the toes. She was discharged on the 18th of September after over six months' treatment, having lost all the toes of the affected foot, and being in as good health as she had enjoyed for a considerable time before the disease attacked her. On the 22nd of November, something more than two months after her discharge, she applied to be re-admitted into the hospital. Her condition then was as follows:—The whole foot had again assumed the appearance of becoming gangrenous. It had got the marbled appearance, and the "horrid pain" had returned. The cuticle was again separated; the disease extended very rapidly, and now the limb for the first time assumed the characteristic coldness. A line of demarcation appeared to have formed about midway between the ankle-joint and the knee. The tumour—which is here now—was still perceptible in the same position in the left iliac region. The disease now ran the ordinary course of rapidly progressing gangrene until the 14th of December, when she refused

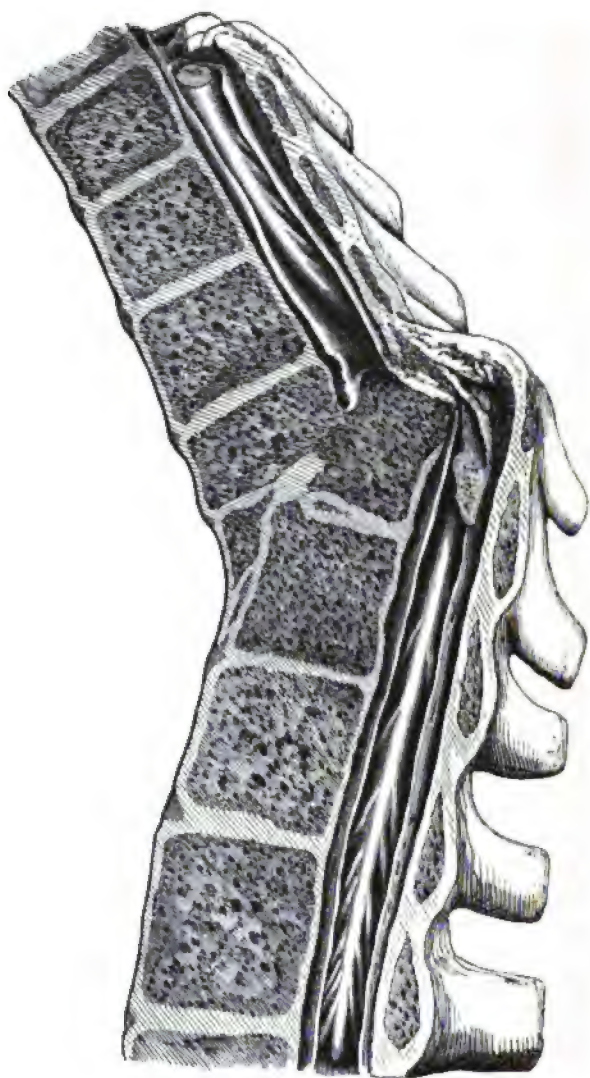
to take any food or nourishment whatever. She complained of great abdominal pain and sickness in the stomach, and violent vomiting set in. On the 15th she had great abdominal pain and copious black vomiting, identical with what I have seen in cases of yellow fever. The black vomiting continued during the whole of the night of the 15th, after which it assumed the character of ordinary bilious vomiting. On the morning of the 16th collapse set in, and she died that afternoon. On making a *post mortem* examination I found that there was no disease of the heart. It was a good heart for a woman of her age, and the great vessels were sound. On opening the abdomen I found evidences of recent general peritonitis. There was a good deal of lymph principally at the hypogastric region in the peritoneum, and there were evidences also of a former attack of peritonitis. There were considerable adhesions in various places, which I attributed to an attack of peritonitis at the time she had the previous attack of pain in the abdomen. I found this tumour—a solid ovarian tumour—lying low down at the left of the spine over the left common iliac artery. It cuts densely fibrous. There were no cysts in it save two small ones, one of which was about the size of a hen's egg at the time I removed it, lying at the back of the tumour, and another from which fluid had apparently escaped. I fancy that it was the bursting of one of the cysts which set up peritonitis, which was the immediate cause of her death. My friend, Professor Purser, who made a microscopic examination of the tumour, says that it is a fibroid tumour very analogous to the fibroid tumours which occur in the uterus. In explanation of the recovery of the foot from the first attack I think it resulted from the unloading of the bowels, which diminished the pressure of the tumour upon the iliac artery. Although this vessel was healthy, and all the other vessels also, yet I believe that the disease was caused by interference with the circulation, the result of the pressure of the tumour on the iliac artery, and that the pressure was considerably increased by the accumulation of fæces; by the removal of these the circulation was re-established in the limb, and this accounted for the recovery of the foot, which is such an unusual circumstance. After the woman lost her toes, and the limb consequently became less useful to her than before, she was unable to move about, and became bed-ridden. The tumour became again depressed by its own weight on the iliac artery and caused a renewed pressure, which was the cause of the recurrence of the disease. There was no atheromatous deposit or other disease or obstruction to be found in the vessels until I came to the posterior tibial artery, in which there are some plates of atheroma, but the gangrene had extended to this point. In other respects the vessels were healthy up to the line of demarcation.—*January 8, 1876.*

United Fracture of the Spine.—DR. BENNETT said: In the year 1873 I laid these two casts on the table, and recorded the facts of the case from which they were taken, as far as they were then known.^a The individual from whom the casts were taken was a boy of nineteen years of age at the time of his admission into Sir Patrick Dun's Hospital in the year 1872. He had fallen from the roof of a two-story house in Sandymount and lit on his buttocks. The features of the case were those observed in ordinary instances of fracture of the lower dorsal region of the spine. There was the usual complete paralysis of the lower extremities, both of sensation and motion, and loss of power of the bladder and rectum, with priapism. There was tympanitic distension of the abdomen shortly after the injury, and the case in all other respects was absolutely in accordance with rule as regards the symptoms in such cases. The diagnosis made at the time was that of fracture of the lower dorsal region at the level of the ninth dorsal vertebra with angular projection of the spine, the apex of the angle being formed by the ninth dorsal spinous process, which appeared to have been displaced backwards. These casts represent the deformity formed by the spinous process of the ninth dorsal vertebra. The character of the lesions of the lower limbs during the boy's stay in hospital were such as indicated an almost, if not absolutely, complete division of the spinal cord. From the time of his admission it was easy to produce, by the slightest contact, reflex movements of the lower extremities. There was a slight difference between the two sides. The left limb was less easily provoked to action by contact in this way, and throughout his stay in the hospital there was a more or less tetanic condition of the muscles of the calf of the leg, which retained the foot extended. In consequence of this I had some doubt that the spinal cord was completely divided. It seemed as if the slight difference existing between the two sides was caused by some slight remains of nerve matter connecting the cord with the nerves going to the left side. The pathological facts, however, show that there seems hardly any ground for that supposition. A note of the case was published by myself on the 6th of July, 1873.^b The boy remained from March, 1872, until the following December, in Sir Patrick Dun's Hospital; and a remarkable feature of his case was, that throughout the whole of that time there was no tendency to bed-sores. When carried into the hospital he was immediately placed on a water-bed and kept on it throughout. The note of the case taken in 1873 was as follows:—
 "The same condition exists at this date. His health is excellent. There is a slight return of sensibility extending to the umbilicus, but not further. The reflex movements of the lower limbs and trunk are much more easily tested than when the patient was first brought into hospital, and are much more powerful, sometimes almost jerking him out of a

^a *Pathol. Trans.* N. S. Vol. V., p. 226.

^b *Loc cit.* P. 228.





DR. E. H. BENNETT.—UNITED FRACTURE OF THE SPINE.

basket car in which he is taken out into the open air. These are greatly influenced by the changes of the weather, particularly by the approach of rain. His bowels act every Saturday with the stimulus of a powerful purge." No change occurred in the progress of the case until last season. In the early part of last year, in consequence of some defect in the water-bed on which he lay, bed-sores began for the first time to appear on the sacrum. He was not then in Sir Patrick Dun's Hospital, but in another hospital. The water-bed on which he had lain wore out underneath him, and for a short time pressure was allowed to take effect and so produced bed-sores; these were subsequently healed in great measure by the providing of a new water-bed. However, after Christmas of last year, or in the early part of Spring, he began to fail in a very marked manner in consequence of the re-establishment of bed-sores and extreme urinary trouble. Instead of retaining his ruddy complexion, and looking fat and plump, he began to waste. He suffered much from difficulty of breathing—he had suffered at first in that way too, but not during the period intervening between the first recovery and the commencement of his last illness in the end of 1873; at last, in the end of April, 1874, he died, as far as I could determine, for I had not the opportunity of observing his condition myself, of simple asthenia. I did not see him, but heard of most of the phenomena. On the 30th of April, with some little difficulty, I made a *post mortem* examination. I removed the spine at the region of the fracture, and also examined the abdominal and thoracic viscera. Before he left Sir Patrick Dun's Hospital positive evidence of union of the fracture was afforded by the observation that the angle formed by the spine at the seat of fracture was unalterable by change of position of the body. The casts exhibited to the Society were taken—the first as he lay on his side, the second as he lay on his face; they show the angular deformity completely unaffected by this change of position. His own feelings were equally conclusive; he at first could feel the grating of the bones at the seat of the injury, and gradually lost this feeling as the union perfected itself; at last he was able to sit up, supporting himself on his elbow or holding a rope hung from the bedstead. He could not feel what he sat on, and always gave the same answer when asked what he felt beneath him—"nothing but a feeling of weakness." The parts of the spine which I have now to submit to the Society are the following;—Commencing above, the lower portion of the body of the fifth dorsal vertebra, the entire of the remaining six dorsal, the first, and part of the second, lumbar vertebræ, with the heads and necks of the lower ribs. I have made a vertical section close to the middle line, through the bones, and carefully preserved the spinal cord and its membranes entire on the right side of the section. The accompanying woodcut represents exactly the right half of this section. The examination of the section proves that a fracture has passed obliquely

through the bodies of the ninth and tenth dorsal vertebræ from behind downwards and forwards; in front a small wedge-shaped piece of the body of the tenth vertebra has been displaced downwards and forwards so far that it has come into relation with the anterior surface of the body of the eleventh dorsal, and has been firmly united by bone to it; the remainder and larger part of the body of the tenth dorsal has passed backwards, carrying with it the arch and processes, and probably some part of the body, of the ninth, and so the spinal canal has been completely interrupted. The vertical measurement of the body of the ninth dorsal is considerably diminished in consequence, I think, of some comminution of its structure, but the traces of these fractures are but faintly marked at the plane of the section; laterally they are sufficiently distinct. All the fractures have been firmly united by bone, and little, if any, trace of exuberant callus is to be seen on any aspect of the specimen. The bearing of the vertebræ above and below those immediately involved in the fracture, and consequently that of the segments of the spinal canal, is completely altered from the normal, so that it is clear that the displacement of the fracture was not confined to the region of the vertebræ involved, but effected a mutual dislocation of the segments of the spine. On the left side the ninth and tenth ribs are firmly ankylosed to their vertebræ. On the right side the tenth rib only is united by bone to its vertebra. On opening the theca vertebralis we find that the spinal cord, remote from the seat of fracture, both above and below is healthy. As we trace it from either extremity of the specimen to the seat of fracture, we find it tapering, and at the limits of the fracture all the fibrous structures blend, and the nerve structure ceases; the membranes, dura and pia mater, pass into the uniting callus, and the canal and its contents are alike abolished. On the lower side of the fracture, and extending for some distance down, as far as the level of the lower margin of the body of the tenth dorsal, a porous mass of bone is seen within the theca vertebralis, moulded to the posterior and lateral parts of the conical extremity of the spinal cord. This bony mass is clearly the result of ossification of lymph deposited within the theca; certainly it has not been derived from any comminution of the vertebræ at the time of their fracture. The condition of the spinal cord in this case differs in one point materially from that observed in the cases recorded by Sir A. Cooper. No sign of any bulbous enlargement of the extremities of the divided cord exists; on the contrary, both extremities taper. The second point in the pathology of the case is this:—I stated that I attributed his death to progressive disease of the urinary organs, slowly established, and also to the irritation arising from the establishment of bed-sores—the common mode of death in these injuries. I greatly regret that in consequence of an obstruction which I encountered in the carrying out of the *post mortem* examination I was unable to remove the

urinary organs; however, on the principle that half a loaf is better than no bread, I thought it well to be satisfied with the fracture and this urinary calculus. The bladder was remarkable; it is the only instance of such a bladder I have ever seen. The membranes of it were so thinned that I could almost see through them, and in attempting to get my hand into the pelvis, so as to remove the bladder and prostate, I found great difficulty in avoiding tearing them. On laying it open I found nothing of that columnar rugose appearance which commonly exists where the bladder is the seat of disease. There was no hypertrophy, but, on the contrary, an extreme wasting. The entire cavity of the bladder was greatly reduced in size, and a calculus nearly occupied the entire space of the bladder. The upper segment of the calculus is, in fact, a mould of the reduced bladder. When I came to try to remove it I found that on cutting away under the pubic arch I was interrupted by a continuation outwards of the calculus, and that the prostatic portion of the urethra was occupied by a lobe of the calculus. The ureters were dilated, but not remarkably thinned; and on cutting them across the ordinary purulent urine, such as is common in fatal cystitis, escaped. The pelves of the kidneys were distended with similar fluid. I was not able to remove the kidneys, nor do I think there was anything remarkable in them except the well-known appearance of chronic suppurative inflammation. The composition of the calculus is interesting. We would have expected to find it entirely composed of phosphates. The main part of it is so constituted, but it has a most distinct and definite nucleus of small size, composed of oxalate of lime, which lies in the part which corresponded to the neck of the bladder. The remainder of it is the ordinary fusible calculus; here is the portion which I fused to-day with a blow-pipe, composed of earthy phosphates and the ammoniaco-magnesian phosphate. The duration of the case was a few days over three years—such a lengthened duration being very rare, indeed, in cases of fracture of the spine. Sir Astley Cooper records a case of a patient treated for a similar injury in St. Thomas's Hospital, who lived for two years, and then died of gangrene of the nates. Many cases, however, are known, the details of which have not been published. Hilton* records the case of a man who fell from a tree and fractured his spine in the lower cervical region. The injury was followed by paralysis of the lower and upper extremities as to sense and motion, and yet the man lived for fourteen years, and was able to use his mouth so as to draw; and in his case there was bony union of the fracture also. He died, curiously enough, from the effects of another fall, which led to a stoppage of his breathing. Professor Gurtt, of Berlin, in his treatise on fractures, gives three examples of bony union. The fractured parts in one of these is in the Museum of Edinburgh; in that case bone union commenced at the end of two months.—*January 22, 1876.*

* Lectures on Rest and Pain. Page 107.

CLINICAL RECORDS.

CASES IN COUNTRY PRACTICE.—*Case of Trismus, following a Lacerated Wound of the Scalp; Erysipelas of the Head and Face; Recovery.* By R. H. TOWNSEND, M.B., T.C.D., Milltown Malbay, Co. Clare.

M. K., aged thirty, a healthy, muscular man, was thrown from his horse on the evening of February 28th, 1876, and received a severe lacerated wound of the scalp, extending all along the left parietal bone, and across the forehead to the external angle of the eye. I saw him for the first time on March 5th, and found him in bed, with a ragged wound 7 inches long and 2 wide in the above-mentioned situation, the scalp extensively detached and bruised, a portion of bone an inch square denuded of pericranium, and the whole wound secreting an unhealthy, sanious pus. I dressed it with carbolic acid and olive oil, supporting the large flap by means of a compress and broad strips of adhesive plaster. The patient complained of considerable pain and soreness in the back of his head and neck; his pupils were dilated; and I remarked to the practitioner, who had been in charge of the case, the probability of trismus supervening.

The following morning, March 6th, I found that he had passed a sleepless night; he was barely able to separate his teeth, he complained of great pain and soreness in the back of his head and neck, his pupils were widely dilated, and he had well-marked "*risus sardonius*;" his skin, too, was bathed in sour-smelling perspiration; pulse, 64; temp., 99·6°. Dr. Stamer, of Ennis (who had seen the patient twice before I was called in), saw him in consultation this evening, and agreed with me that we had a case of traumatic trismus to deal with. We ordered strong beef tea, and brandy in half-ounce doses, to be given alternately every hour, and half a drachm of chloral hydrate to be taken at bed time. As regards special anti-tetanic remedies he left the selection in the hands of Dr. Hill (who was associated with me in charge of the case from this date) and myself, and we decided to give the treatment by Calabar bean and chloral hydrate—as recommended in a paper by Dr. Shinkwin, of Cork, in the *Dublin Medical Journal* of August, 1875—a fair trial, our aim being to *obviate local irritation merely*, and this idea we carried out all through our subsequent treatment of the case.

7th.—Complains less of neck; can open his teeth nearly an inch; slept at intervals through the night. Pulse, 82; temp., 99·6° in morning; 88 and 99·2° (evening); wound looks healthy.

8th.—Pulse, 96; temp., 99·8°. Neck stiffer and more painful than yesterday; bowels not moved for three days. Gave a turpentine and assafoetida enema, which acted well, and injected hypodermically gr. $\frac{1}{30}$ of eserine every hour for four hours. The patient expressed himself much relieved by the hypodermic injection, saying, "whatever we put into his arm drew the pain out of his neck." As soon as he ceased to complain of the pain in his neck, we stopped the eserine. The "risus" is still well marked, and he is perspiring freely; temp., 99·2°; pulse, 90 (evening).

9th.—Had a quiet night; neck not painful this morning; pulse, 82; temp., 99·2°. Pupils still dilated; teeth cannot be separated an inch, and "risus" still evident. At 1 p.m. complained of neck again, and was ordered gr. i. of ext. of Calabar bean in pill every hour while the pain lasted, and 3 ss. of chloral at 5 p.m. as well as at 11 p.m. The pain was so much lessened at 5, after three pills, that we stopped them again. Evening—pulse, 82; temp., 98·6°.

10th.—Slept pretty well; complains that the pills make him sick; as the neck is again stiff and painful, gave three hypodermic injections of eserine (stopping as before when he ceased to complain). Pulse, 68; temp., 99·6° (morning). Evening—pulse, 76; temp., 99·2°; neck easy.

11th.—Pulse, 69; temp., 99·4°; neck easy; sweating ceased; teeth can be separated an inch; "risus" still evident. Evening—neck painful again; gave three hypodermic injections of eserine, and chloral as before. Pulse, 73; temp., 99°.

12th.—Had a good night. Pulse, 79; temp., 99·6°; sweating again; at 4 p.m. complained of agonising spasms of the trapezius muscle on the left side, recurring every ten minutes, and jerking his head violently, says, "if they continue any longer they will kill him." Injected my last eserine disc, and then gave gr. i. of a new extract every hour, until, after ten pills, the spasms ceased, leaving the trapezius and sterno-mastoid very rigid, and the "risus," which was very well marked in the morning, still very evident. His bowels moved three times, the dejecta being horribly foetid, slimy, and containing blood. Pulse, 70; temp., 98·6°.

13th.—Slept fairly; no more spasms until between 9 and 10 a.m.; ceased after seven pills. Pulse, 77; temp., 98·6°; muscles not so rigid as yesterday. The pills were given every hour, from 11 a.m. to 8 p.m.

14th.—Good night; pulse, 79; temp., 99·4°; had slight spasms in the afternoon, which ceased at once after his chloral draught at 5 p.m. Remarking this, and that they ceased the day before at 11 p.m. after ten pills and a chloral draught at that hour, we determined to try and answer the question which Dr. Shinkwin proposes in the paper before alluded to—viz., in the treatment by Calabar bean and chloral combined, which is the active agent? He thinks the Calabar bean. At all events, we omitted the Calabar bean, and gave 3 ss. of chloral every sixth hour.

15th.—Slept all night, and feels very well this morning; has had no spasm since; sweating ceased; can open his mouth wider than he could up to this; has no stiffness in his neck; pulse, 90; temp., 99·4°. Evening—is very drowsy; had no spasm during the day; can move his head backwards and forwards, and turn it to either side without pain; pulse, 72; temp., 98·4°.

16th.—Slept well; no spasm; no sweating; complained of his tongue being sore, and explained that while he was asleep some days ago it got between his teeth and was bitten at the moment of awaking. Pulse, 72; temp., 99° (morning). Pulse, 71; temp., 98·6° (evening). From this date he had no spasm; the stiffness of the neck troubled him no more; the “risus” disappeared, and the power of opening his mouth gradually returned; but on the—

21st, his pulse, which was 70 in the morning, rose to 90 at 7 p.m., and his temp. from 99·4° to 102·4°. He complained of excruciating pain along the margin of the left trapezius, extending up to the wound; a chain of enlarged glands can be felt at the seat of pain; erysipelas evidently impending; ordered a hot linseed poultice, sprinkled with laudanum, to the seat of pain; this soon gave relief.

22nd.—Had restless night; pulse, 98; temp., 102·4°; tongue dry and brown on dorsum; much sordes on teeth; margin of gums presents a well-marked red line; they are spongy and inclined to bleed; no erysipelas to be seen yet; ordered chlorate of potass in decoct. cinchonæ. Evening—pulse, 98; temp., 103·8°.

23rd.—Slept fairly; no pain save in wound, which, however, looks healthy; pulse, 81; temp., 101·6; erysipelas of ear on left side; applied collodion. Evening—pulse, 91; temp., 103·4°.

24th.—Erysipelas creeping across the face. Pulse, 89; temp., 102·2°.

25th.—Erysipelas extending to right side of face; collodion applied again. Pulse, 79; temp., 100·8°.

26th.—Whole face affected; collodion applied; pulse, 88; temp., 103°; bowels confined; bolus of calomel and scammony.

27th.—No further extension; erysipelas fading on left side. Pulse, 77; temp., 99·8°.

Erysipelas faded from this to 31st, when it had all disappeared; pulse, 70; temp., 98·5°; may sit up.

How far the remedies employed served to prevent the disease from extending to general tetanus, or how they would have succeeded if it had so extended, must, of course, remain doubtful. We adhered throughout to our original idea—to push the remedies merely to the removal of local irritation and no further; but we were, at the same time, prepared to give a grain of the extract every quarter of an hour for this purpose, if necessary. The spasms of the trapezius looked formidable at one time; the patient quite gave himself up for lost when they came on.

The Calabar bean never produced its specific effect on the pupil. The chloral always acted well, quieting, when it failed to produce sleep. It certainly supplemented the Calabar bean well—whether it did more I will not presume to say from the issue of one case. Close observation in this case was difficult, as the patient was in lodgings, without a skilled nurse, and nearly two miles from my house. The erysipelas never was formidable; it did not affect the healing of the wound, and the treatment by collodion seemed to act very well, allaying the burning pain, and apparently checking the local inflammation.

REFLEX CONTRACTION OF BLOOD-VESSELS.

THE influence which is exerted on the calibre of the blood vessels by irritation of sensitive nerves has been much studied of late. This reflex action has been made the subject of a monograph by Eugen Pick.* It would appear—1. That the stronger the sensitive irritation, the greater the reflex contraction, and the more rapidly does it occur. 2. That different parts of the body require irritations of different strength in order to produce vascular narrowing of equal degree and rapidity of occurrence. 3. That the smaller the vessel is, the earlier and the greater is its contraction. 4. That the dilatation which follows the contraction occurs only in the larger arteries. 5. That sensitive irritation, even of considerable intensity, if applied when the vessels are in a condition of secondary dilatation, causes only very gradual and feeble contraction. Coincidentally with the narrowing of the vessels, the rapidity of the blood-current is diminished, not accelerated, as might be, *à priori*, expected. The centre for these reflex vascular contractions is seated in the medulla oblongata, and if it is destroyed, sensitive irritation is without effect on the vessels. Irritants which cause inflammation produce different effects according to their strength. Thus, a very strong solution of ammonium carbonate applied to the frog's web causes immediate dilatation of arteries and veins, slowing of the blood-current, emigration of white and red corpuscles, and subsequently complete stasis and necrosis. If the solution be weaker the arteries contract, the blood flows in diminished quantity and with less rapidity, but about the spot to which the application has been made the blood-flow is increased. After some time the vessels dilate, and the ordinary phenomena of inflammation—as hyperæmia, emigration of corpuscles, &c.—are seen.

J. M. P.

* Vierteljahrschrift f. d. praktische Heilkunde. Bd. 128, S. 62.

SANITARY AND METEOROLOGICAL NOTES,

Compiled by J. W. MOORE, M.D., F.K.Q.C.P.

VITAL STATISTICS

Of Eight Large Towns in Ireland, for Four Weeks ending Saturday, April 22nd, 1876.

Towns	Population in 1871	Births Registered	Deaths Registered	DEATHS FROM ZYMOTIC DISEASES							Annual Rate of Mortality per 1,000 Inhabitants
				Small-pox	Measles	Scarlet Fever	Diphtheria	Whooping Cough	Fever	Diarrhoea	
Dublin, -	314,666	673	738	—	28	31	2	16	12	13	31·3
Belfast, -	182,082	618	387	—	—	2	3	14	6	10	27·6
Cork, -	91,965	202	221	—	—	—	—	4	7	6	31·2
Limerick, -	44,209	76	87	—	—	—	—	2	3	—	34·3
Derry, -	30,884	67	43	—	—	4	—	—	1	2	18·1
Waterford, -	30,626	93	78	—	—	—	—	—	1	—	33·1
Galway, -	19,692	36	55	—	—	—	—	—	—	—	36·3
Sligo, -	17,285	35	29	—	—	—	—	—	1	—	21·8

Remarks.

The returns for Limerick for the week ending April 22 were incomplete, so that the figures given above for that city apply to a period of only three weeks. The death-rate was very high in Galway, Limerick, Waterford, Dublin, and Cork; high in Belfast; and low in Sligo and Derry. In London it was 23·7 per 1,000 of the population annually, in Glasgow 29·8, and in Edinburgh 22·8. For the first three months of 1876 the death-rate in Dublin was 34·3. Among zymotic diseases measles was prevalent and fatal in Dublin; scarlatina was fatal in Derry and Dublin; and whooping-cough in Belfast and Dublin. Of 117 deaths due to zymotics registered in Dublin, 99 occurred within the municipal boundary. Of 188 deaths from diseases of the respiratory organs, 146 were caused by bronchitis and 22 by pneumonia. In the four weeks the deaths of 246 children under 5 years of age were registered—a number equal to an annual mortality of 120 among 1,000 children living at that age. The corresponding mortality for the first quarter of 1876 was 112 per 1,000. The high general death-rate and that of young children speak very unfavourably for the present sanitary state of the capital.

METEOROLOGY.

*Abstract of Observations made at Dublin, Lat. 53° 20' N., Long. 6° 15' W.,
for the Month of April, 1876.*

Mean Height of Barometer, - - -	29·844 inches.
Maximal Height of Barometer (9 a.m. on 6th), -	30·478 „
Minimal Height of Barometer (9 a.m. on 19th), -	28·977 „
Mean Dry-bulb Temperature, - - -	46·4°
Mean Wet-bulb Temperature, - - -	43·9°
Mean Dew-point Temperature, - - -	40·9°
Mean Humidity, - - -	81·6 per cent.
Highest Temperature in Shade (on 4th), -	63·7°
Lowest Temperature in Shade (on 10th), -	25·4°
Lowest Temperature on Grass (Radiation) (on 10th),	26·0°*
Mean Amount of Cloud, - - -	66 per cent.
Rainfall (on 17 days), - - -	2·601 inches.
General Direction of Wind, - - -	W., S.E., N.W., N.E.

Remarks.

At the beginning of the month the weather showed a marked improvement on that of March—mild S.W. and W. winds with a high barometer and a scanty rainfall prevailing. On the 8th, however, atmospherical pressure gave way rapidly, and at 3.30 p.m. on the 9th a sudden and severe thunderstorm with heavy hail passed over Dublin from W.S.W. Next morning the centre of a barometric depression had advanced over England from the N.W., so that a keen N.N.E. wind had sprung up on the Irish coasts, plunging us once more into mid-winter, and bringing with it a heavy fall of sleet and snow. Hail and snow fell on the following two days, and on the evening of the 12th an extraordinary snow-storm occurred—some three inches of snow lying on the ground by 10 p.m. Everything was covered with snow, and the scene next morning was one of great beauty. An intense frost—the severest of the past winter—followed this fall of snow. The shade thermometer sank to 25·4° in the early morning hours of the 10th. The weather during the remainder of the month was generally cold and broken. A second thunderstorm took place at 5.30 p.m. of the 24th. A lunar halo was observed on the 4th. Snow or sleet fell on the 10th, 11th, 12th, and 13th; hail fell on the 9th, 10th, 11th, 12th, 13th, 24th, 25th, and 28th. A dense sea-fog rolled in on the 21st.

* This does not really represent the lowest radiation temperature, as the thermometer was at the time covered with snow.

PERISCOPE.

Edited by G. F. DUFFEY, M.D., F.K.Q.C.P.

HYPODERMIC ALIMENTATION.

IN a case of chronic gastric ulcer, accompanied by high temperature, almost imperceptible pulse, and the delirium of inanition, and in which even milk was constantly vomited and rectal injections were no longer retained, a trial was given to hypodermic injections of a teaspoonful of milk, alternating with beef extract, every two hours. These injections were continued for four days, and at the end of this time there was a marked abatement of the unfavourable symptoms. A little milk was given by the mouth, but, as it again caused pain, cod-liver oil was given hypodermically, every two hours, for three days, after which the patient had sufficiently recovered to take food in the usual way. The patient then received sixty-eight hypodermic injections in different parts of the body, receiving in one day as much as four ounces of cod-liver oil. Two small abscesses formed, both from the milk. The oil caused no pain, but the precaution was taken to raise it almost to the temperature of the body. In another case olive oil was used, and the patient, a lunatic, was supported by hypodermic injections for twenty days without any other aliment whatever; he made a good recovery (*Richmond and Louisville Med. Jour.*). Hypodermic injections of liquified fats, saccharine solutions, and yolk of egg, have also been used. Stricker and Oser have even tried injections of peptone. Krueg has found this method eminently successful in the treatment of an insane patient who refused to eat, and in whose case the œsophageal sound was fraught with danger. Nutrient hypodermic injections were decided upon. The syringe, which could contain 15 centigrammes of fluid, was connected, by means of India-rubber tubing, to an ordinary Pravaz's syringe. The passage of the fluid could be readily seen in the glass-receiver of the syringe; the India-rubber tube diminished the shock and rendered any movement on the part of the lunatic less dangerous. At first one syringeful, afterwards two (30 centigrammes) were injected each day. The duration of the operation varied from half an hour to an hour. The longer the time devoted to it, the less was the pain caused. Once only was it followed by an abscess, the contents of an egg having been injected. These hypodermic injections were had recourse to from the 7th to the 25th February, with the exception of the 13th, 16th, 18th, and 23rd, during which days he consented to eat, and also were used from the 27th to the 30th of March. The unpleasant odour caused by prolonged

fasting disappeared after the first injection (*Rev. des Sci. Med.*, 15 Jan.). The subcutaneous injection of sheep's blood in the insane was the subject of a paper recently read before the Société de Médecine Pratique, by Dr. Voisin (*London Med. Record*, April 15). This method of treatment is not directed against the mental state, but is intended to keep up nutrition in sufferers from melancholia considered as incurable. In one case fifty grammes of blood ($1\frac{1}{2}$ oz.) were injected into the subcutaneous cellular tissue of the arm every eighth day.

THE TRANSFUSION OF MILK.

IN connexion with the above-mentioned subject of hypodermic alimentation, may be noted a case in which a patient, who was apparently moribund four days after the operation of double ovariectomy, was revived by the transfusion of eight and a half ounces of fresh cow's milk into the median basilic vein. The woman made a good recovery (*American Journ. of the Med. Sciences*, January, 1876). The operator, Professor T. Gaillard Thomas, says he is averse to the transfusion of blood, and was induced to employ milk, from the success which had attended its use in the hands of Dr. Hodder, when injected into the veins of apparently moribund cholera patients in the Canadian epidemic of 1850. Dr. T. W. Howe, of New York, has also injected six ounces of warm goat's milk into the cephalic vein of a patient suffering from tubercular disease, and who appeared to be dying from starvation, in consequence of inability to retain nutritious material by either stomach or rectum. This patient felt better after the operation, but only survived it four days. There were no clots in the veins of the arm or in the lung. Donné has shown that milk may be injected into the veins of dogs and rabbits without injury to them.

SALICYLIC ACID IN RHEUMATISM.

THE following *résumé* gives the result of the treatment of fourteen cases of acute rheumatism by salicylic acid, in the Boston City Hospital, as reported by Dr. Hall Curtis:—Case 1. No effect from salicylic acid. 2. Alkalies for a month; then acid, eight doses, with relief. 3. Alkalies for twenty days without relief; acid in one day gave relief. 4. Acid for seven days; patient well. 5. Alkalies two days; acid seven days with entire relief. 6. Relief after four doses of acid; this was continued four days; recovery. 7. Acid three days without relief, followed by tincture of chloride of iron for fifteen days; recovery. 8. Alkalies gave relief in four days; recurrence. Acid given four days with entire relief. 9. Acid three days; no relief; alkalies for twelve days; recovery. 10. Acid seven days with entire relief. 11. Acid refused by stomach; alkalies during eleven days with relief. 12. Acid for nine days; complete relief after the first four days. 13. Acid five days with relief; discharged.

well, in seven days. 14. Acid seven days; complete relief in three days. The acid was generally given in wafers, in ten-grain doses every hour while the patients were awake. The cases are given rather briefly, and the total amount of salicylic acid given is only stated in one case (No. 1), and in this instance the acid was omitted after five ten-grain doses. In case 9 the acid was only given in ten-grain doses *ter die*. Another case of recurrent acute rheumatism, cured after the ninth dose of seven grains every two or three hours, is reported in the same number.—*Boston Med. and Surg. Jour.*, April 6, 1876.

ADMINISTRATION OF SALICYLIC ACID.

M. A. CASSON proposes (*Bull. Gen. de Thérap.*, April 30) the employment of citrate of ammonia as a means of facilitating the solution of salicylic acid. Half a drachm of salicylic acid dissolves readily in less than four ounces of water (120 grammes), if 37 or 45 grains of citrate of ammonia are added. M. Casson gives the following formula:—For a solution—salicylic acid, 3i; citrate of ammonia, 3ss; rum or brandy, 3i; distilled water, 3v. A tablespoonful of this solution will contain from 4 to 4½ grains of salicylic acid. The citrate of ammonia is easily prepared by saturating ammonia in a solution of citric acid.

SUGAR-FORMING FERMENTS IN THE ANIMAL ORGANISM.

ABELES concludes that the sugar-forming ferment which has been found in the liver does not exist during life, but arises *post mortem*, presenting an analogy in the rapidity of its production with the fibrine ferment which has been recently discovered by Alex. Schmidt. If the liver is, without delay, transferred from the living animal to boiling water, the decoction is always found free from sugar, but if, after boiling, it is allowed to stand for some hours at an ordinary temperature, sugar is found to be present. Hence, either the boiling merely suspends the action of a ferment already present (a most unlikely supposition), or the ferment develops after the boiling. From the boiled liver the ferment can be got by extraction, with a solution of salicylic acid and precipitation with alcohol. It transforms glycogene into sugar, and agrees in most respects with the ferment got by Eostein and Müller from the unboiled liver. When the ferment is boiled it loses its efficacy, but its power returns to a slight degree after some days, which is probably due to a further formation of the material. From boiled muscle a similar ferment can be got. Blood, on the other hand, has no sugar-forming power. Solution of glycogene injected into the vessels was followed by only a very small excretion of sugar in the urine, not more than would follow an injection of plain water. Subcutaneous injection of glycogene was altogether without effect. Hence the author concludes that the hyperæmia of the liver found in cases of experimentally-induced diabetes cannot explain

the occurrence of sugar in the urine, since, as the blood has no power of forming glycogene, it is of no consequence whether much or little passes through the liver. He further points out that in diabetes, as it occurs in the human subject, no proof exists that the sugar passed in the urine is derived from hepatic glycogene.—Stricker's *Medizinische Jahrbücher*, 1876, p. 225. J. M. P.

EXPERIMENTAL RESEARCHES AS TO THE INOCULABILITY OF CONTINUED FEVER.

DR. MOTSCHUTKOFFSKY, Chief to the City Hospital of Odessa, gives the following *résumé* of experiments made by him during the last three years with reference to the question of the inoculability of typhus fever. He was led to make them by remarking the course by which enteric, typhus, and relapsing fevers rapidly developed into severe epidemics. "I was further instigated," he says (*Centralblatt*, 11th March, 1876, No. 11), "to this inquiry by an experiment of Dr. Münch's, whereby he succeeded in developing in himself relapsing fever, by auto-inoculation, with the blood of a patient affected with that disease." Motschutkoffsky's experiments were made both upon men, who generously submitted themselves for the purpose, and upon animals—monkeys, rabbits, dogs and cats—with the following results:—Repeated attempts to inoculate both man and beast with typhus and enteric fever always failed to succeed. Inoculation with relapsing fever, on the other hand, most readily succeeded in producing that fever, when practised on healthy human subjects; but it was entirely fruitless as regards animals. It was demonstrated that the inoculable agent was the blood, for repeated experiments with milk, sweat, urine, sputum, and excrement were without any result. Further, the inoculation only succeeded when the blood of a patient in fever was used during the onset of the fever or during relapse, for when performed during the period of apyrexia it gave but negative results. If only the blood was taken during the onset of the fever, for example the first hour, or the exacerbation, and used for inoculating, it was all one to the success of the operation whether, under the microscope, filamentous bodies (*spirilla*) appeared or not. The relapsing fever thus induced by artificial inoculation differed from that acquired by other modes of infection in no respect, either as to its clinical features or the strength, the duration, or the number of the attacks. This artificial relapsing fever became a new centre from which to obtain infection matter, but the observations made did not tend to confirm the theory started by Davaine, with regard to pus—namely, that every fresh inoculation increased the quality of the virus, so as to make it still more inoculable. From the inoculation matter taken from a case of relapsing fever (*febris recurrens*), and that exclusively, was developed no other of the various forms of infectious diseases. Blood, taken from a case of bilious relapsing fever and inoculated, produced

simply relapsing fever, and not that of the bilious type. The period of incubation lasted never more than eight and never less than five days, and the period of apyrexia approximated itself closely to the duration of incubation. Inoculation, practised with the blood taken during the period of incubation, from a patient already artificially infected, produced no result. The quantity of infective blood employed had no influence upon either the duration of the stage of incubation or the intensity of the onset of the fever. Blood taken from a man ten weeks after the last relapse (the fourth) was used as infection, but it did not produce relapsing fever. Blood kept for two days at a temperature of $+ 10^{\circ}$ R. (55° Fahr.), in hermetically sealed capillary tubes, gave positive results. The filamentous bodies had not, in this case, lost their motility. Inoculation with blood, diluted with equal parts of sulph. quiniæ, of the strength of one per cent., succeeded perfectly, the *spirilla* having lost their power of movement immediately on the solution being added. Blood diluted with rectified spirit, in the proportion of ten parts of blood to one of spirit, gave negative results as regards infection. In this instance, also, the filamentous bodies ceased to move on the admixture of the spirit. Of the persons inoculated not one has received, for his subjecting himself to experiment, any permanent injury, much less has he paid for his zeal by his life.

J. M. F.

DIPHThERIA TREATED WITH SULPHATE OF IRON.

SABATA uses a gargle of 5 grammes ($77\frac{1}{2}$ grains) of sulphate of iron in 100 grammes ($3\frac{1}{2}$ ozs. nearly) of distilled water, to which is added 25 drops of sulphuric acid. At the same time he touches the diphtheritic patches with a somewhat stronger solution (5 grammes of sulphate of iron, 70–80 grammes of water, and 25 drops of sulphuric acid). In addition to these, he orders internally hyposulphite of soda and tannate of quinine. Under this treatment, his statistics show, in the course of a severe epidemic, a death rate of 12.5 per cent.—*Annali di Chimica Applicata alla Medicina*, October, 1875.

K. M. F.

TREATMENT OF ACUTE RHEUMATISM BY MEANS OF PACKING WITH CARBOLIC ACID.

SEVERAL cases of acute rheumatism have been satisfactorily treated at St. Francis' Hospital, New York, by means of packing with blankets wrung out of a very dilute solution of carbolic acid. The method consists in adding an ounce of carbolic acid to a pailful of warm water, and saturating blankets with the solution before applying them. Marked relief is said to follow the application.—*N. Y. Med Jour.*, Feb., 1876.

A NEW METHOD FOR THE QUANTITATIVE ESTIMATION OF ALBUMEN IN URINE.

THE usual method by drying and weighing, although the most accurate, is so tedious that it is seldom employed in medical practice. The other methods are too inaccurate to be of any use. Dr. A. Bernhardt proposes the following ingenious method:—The urine is filtered through Swedish filter paper. A certain quantity (100–50–30 cc.) is measured out and boiled, having been, if necessary, acidulated with acetic acid. The precipitated albumen is collected in a filter and washed with hot distilled water until the washings, when evaporated in platinum foil, leave no residue. The albumen is then carefully washed into the apex of the filter and dried. When dry it is removed from the filter and placed in a Geissler's piknometer (specific gravity bottle), which is filled with distilled water and weighed with all the usual precautions at 20° C. The weight of the piknometer, filled with distilled water without albumen, is also taken at the same temperature. From the difference in the two weights it is easy to calculate the quantity of albumen. The specific gravity of albumen is 1.314. Hence the difference in weight between the piknometer with water and the same piknometer with water and one cubic centimetre of albumen is 0.314 grain. Suppose, now, it is found that the piknometer with the albumen weighs 0.027 more than that containing water only, the following proportion will give the quantity of albumen in grains:— $1.314 : x :: 0.314 : 0.027$; or, in general, putting diff. for the difference in the weight of the piknometer with and without the albumen:— $1.314 : x :: 0.314 : \text{diff.}$ —*Vierteljahrschrift f. d. prak. Heilkunde.* Bd. 29, S. 45.

J. M. P.

FAT-EMBOLISM OF THE LUNGS.

THE occurrence of this lesion, one of such importance in cases of fracture, was noticed in Dr. Cabot's practice at the Massachusetts General Hospital. A labouring man, aged twenty-three, addicted to liquor, was brought in with a fractured thigh. The bone was broken at the upper third, and there was an extensive ecchymosis on the outside of the thigh and hip. The patient passed an easy night, but on the following day was quite feeble, with a quick pulse, 148 in the minute. Eight days after his entrance he died. His symptoms during this interval were—prostration, rapid and weak pulse, moderately accelerated respiration, slight cough at the outset, and sleeplessness, for which morphia, chloral, &c., were given. Four days after his entrance he became actively delirious, and towards the end constantly disarranged the splints. At no time were the rational signs of pneumonia prominent, but at the autopsy there was found double pneumonia of both lower lobes. In many of the

branches of the pulmonary artery, both of the hepatised and the aerated portions of the lungs, fat drops were found which could be readily forced into the net-work of alveolar capillaries. It was not evident that the solidified portions of the lungs contained more than the relatively healthy parts. The prominent symptoms being those commonly referred to as from shock, the question naturally arises how far they, and perhaps the pneumonia, were to be attributed to the fat-embolism. In the recorded cases of Wagner and Bergmann, as well as in the experiments of Busch, death had taken place much earlier from œdema of the lungs. The brain was not examined; this omission is the more to be regretted because a strong degree of probability exists that oil globules were present in the cerebral capillaries in such cases, as well as in the lungs and elsewhere.—*Boston Med. and Surg. Journ.*, February 17.

DATURIA AS A MYDRIATIC.

It has long since been demonstrated, both chemically and physiologically, that the active principles of belladonna and of stramonium are identical, and that both drugs possess the same therapeutic properties. In 1861, Jobert (de Lamballe) proposed the substitution of the alkaloid of the *Datura Stramonium* (daturia) as a mydriatic instead of atropia. He concluded that daturia was three times as strong as atropia; that its instillation into the eye caused no pain or confusion to vision, and that its effects were more constant than those of atropia, and its action more persistent.* Dr. Fano has published (*Journal d'Oculistique et de Chir.*, Aug. and Sept., 1875), numerous observations illustrating the employment of daturia as a mydriatic. The instillation of a solution of daturia (1 part in 600) causes, he says, dilatation of the pupil in twenty-five minutes, and this too in some cases of keratitis, in which atropia has failed to produce any effect. In certain cases also, of chronic vascular and plastic keratitis—in which the mydriatic action of neither atropia nor daturia is appreciable—the daturia solution, he thinks, has a special action upon the vessels of the cornea, their calibre diminishing under the influence of the alkaloid.

DRY CUPPING IN OBSTETRICS.

DR. B. H. WASHINGTON affirms that—1. Dry cupping applied for from five to ten minutes on the sacral portion of the spinal column will produce relaxation of the os uteri and external parts. 2. Dry cupping next applied (while the lower cup is still on) above the first cup will produce contractions of the fundus uteri, and that often, so as to secure delivery in even less than thirty minutes.—*Atlanta Med. Journ.*

S. W.

* See Bull. Gén. de Thérap. T. LXII., p. 138, and t. XC., p. 284; and Lond. Med. Rec., Dec. 15, 1875.

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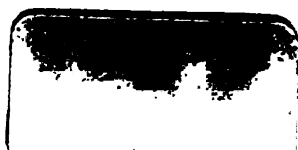
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